

Table 5-39
Base Neutral/Acid Extractable Compound Concentrations in Surface Soil
SCYI RFI
Hazardous Waste Mixing Box (SWMU 39)
 (Page 2 of 3)

Sample ID Lab ID Sample Date	Soil Ingestion/ Dermal		Inhalation RBSL ²	Migration to Groundwater	39-01(1.0-1.5) 39-03(1-1.5)	
	RBSL ¹	RBSL ¹			BQ0870	N37144-15A
BNAs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)						
2,4-Dichlorophenol	2.1E+06	--	--	1,000	370 U	180 U
Diethyl phthalate	5.5E+08	--	--	4.7E+05	370 U	73 U
Dimethyl phthalate	1.0E+10	--	--	--	370 U	73 U
2,4-Dimethylphenol	1.4E+07	--	--	9,000	370 U	180 U
4,6-Dinitro-o-cresol	1.0E+05	--	--	--	900 U	730 UJ
2,4-Dinitrophenol	1.4E+06	--	--	200	900 UJ	730 U
2,4-Dinitrotoluene	2.0E+06	--	--	0.8	370 U	73 U
2,6-Dinitrotoluene	1.0E+06	--	--	0.7	370 U	73 U
Di-n-octyl phthalate	1.4E+07	--	--	1.0E+07	370 U	73 U
Fluoranthene	2.4E+07	1.0E+09	1.0E+09	4.3E+06	370 U	73 U
Fluorene	2.4E+07	7.4E+07	7.4E+07	5.6E+05	370 U	73 U
Hexachlorobenzene	1,000	2,000	2,000	2,000	370 U	73 U
Hexachlorobutadiene	2.5E+04	1.3E+04	1.3E+04	2,000	370 U	73 U
Hexachlorocyclopentadiene	4.1E+06	4.1E+04	4.1E+04	4.0E+05	370 UJ	730 UJ
Hexachloroethane	1.4E+05	9.2E+04	9.2E+04	500	370 U	180 U
Indeno(1,2,3-c,d)pyrene	2,000	2.6E+07	2.6E+07	1.4E+04	370 U	73 U
Isophorone	2.0E+06	--	--	500	370 U	73 U
2-Methylnaphthalene	4.1E+06	--	--	1.7E+04	370 U	73 U
2-Methylphenol	3.4E+07	--	--	1.5E+04	370 U	180 U
4-Methylphenol	5.1E+06	--	--	--	370 U	180 U
N-Nitrosodiphenylamine	3.9E+05	--	--	1,000	370 U	180 U
N-Nitrosodi-n-propylamine	200	--	--	0.05	370 U	73 U
Naphthalene	1.2E+07	2.4E+05	2.4E+05	8.4E+04	370 U	73 U
2-Nitroaniline	3.1E+06	--	--	--	900 U	180 U
3-Nitroaniline	1.4E+05	--	--	--	900 U	180 U
4-Nitroaniline	1.4E+05	--	--	--	900 U	180 U
Nitrobenzene	3.4E+05	1.3E+05	1.3E+05	100	370 U	73 U

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Base Neutral/Acid Extractable Compound Concentrations in Surface Soil
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Hazardous Waste Mixing Box (SWMU 39)
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Sample ID	Soil Ingestion/ Lab ID	Inhalation RBSL ²	Migration to Groundwater	39-01(1.0-1.5) BQ0870	39-03 (1-1.5) N37144-15A
Sample Date	RBSL ¹		RBSL ³	28-Jun-96	15-Apr-03
BNAs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)					
2-Nitrophenol	--	--	--	370 U	180 U
4-Nitrophenol	--	--	--	900 U	730 U
2,2'-oxybis(1-chloropropane)	4.1E+04	--	--	370 U	73 U
Pentachlorophenol	1.0E+04	--	30	900 U	730 U
Phenanthrene	1.7E+07	--	4.2E+05	370 U	73 U
Phenol	2.1E+08	1.0E+09	1.0E+05	370 U	180 U
Pyrene	1.8E+07	5.8E+08	4.2E+06	370 U	102
1,2,4-Trichlorobenzene	6.8E+06	3.2E+06	5,000	370 U	73 U
2,4,5-Trichlorophenol	6.8E+07	--	2.7E+05	370 U	180 U
2,4,6-Trichlorophenol	1.7E+05	3.4E+05	200	900 U	180 U

Any values exceeding RBSLs are shown shaded.

U - compound was analyzed for but not detected at the concentration shown

-- not available

J - estimated value

Notes:

1. RBSLs for soil ingestion/dermal contact are the lower of EPA industrial SSLs (EPA, 2002), shown in italics, and EPA Region 3 (Oct 2004) industrial soil ingestion risk-based c (RBCs), shown in standard font, except for benzo(ghi)perylene and phenanthrene, which are derived from TNRCC (March 2004).
2. RBSLs for inhalation of volatiles in outdoor air are from EPA (2002).
3. RBSLs for migration to groundwater are from EPA (2002) for a DAF of 20, except for benzo(ghi)perylene, dibenzofuran, 2-methylnaphthalene, and phenanthrene, which are from TNRCC (March 2004).
4. A detailed discussion concerning selection of RBSLs is provided in Section 5.1.2 of the report

Table 5-40
Base Neutral/Acid Extractable Compound Concentrations in Subsurface Soil
SCYI RFI
Hazardous Waste Mixing Box (SWMU 39)
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Sample ID	Soil Ingestion/ Lab ID	Inhalation RBSL ²	Migration to Groundwater RBSL ³	39-01(3.0-3.5)	39-01(11-11.5)	39-01(15-15.5)	39-02(11-11.5)	39-03(11-11.5)
Sample Date	Dermal RBSL ¹	RBSL ²	RBSL ³	BQ0871	BQ0872	BQ0873	BQ0874	BQ0876
BNAs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)								
Acenaphthene	3.7E+07	5.6E+07	5.7E+05	400 U	460 U	430 U	410 U	470 U
Acenaphthylene	--	--	--	400 U	460 U	430 U	410 U	470 U
Anthracene	1.8E+08	1.0E+09	1.2E+07	400 U	460 U	430 U	410 U	470 U
Benzo(a)anthracene	2000	--	2,000	400 U	460 U	430 U	410 U	470 U
Benzo(b)fluoranthene	2000	2.6E+07	5,000	400 U	460 U	430 U	410 U	470 U
Benzo(k)fluoranthene	2.3E+04	2.6E+08	4.9E+04	400 U	460 U	430 U	410 U	470 U
Benzo(ghi)perylene	1.7E+07	--	4.6E+07	400 U	460 U	430 U	410 U	470 U
Benzo(a)pyrene	200	2.6E+06	8,000	400 U	460 U	430 U	410 U	470 U
bis(2-Chloroethoxy)methane	--	--	--	400 U	460 U	430 U	410 U	470 U
bis(2-Chloroethyl) ether	2000	400	0.4	400 U	460 U	430 U	410 U	470 U
bis(2-Ethylhexyl)phthalate	1.4E+05	1.0E+09	3.6E+06	400 U	460 UJ	430 U	410 U	470 U
4-Bromophenyl phenyl ether	--	--	--	400 U	460 U	430 U	410 U	470 U
Butyl benzyl phthalate	1.4E+08	--	9.3E+05	400 U	460 U	430 U	410 U	470 U
Carbazole	9.6E+04	9.4E+08	600	400 U	460 U	430 U	410 U	470 U
4-Chloroaniline	2.7E+06	--	700	400 U	460 U	430 U	410 U	470 U
p-Chloro-m-cresol	--	--	--	400 U	460 U	430 U	410 U	470 U
2-Chloronaphthalene	8.2E+07	--	--	400 U	460 U	430 U	410 U	470 U
2-Chlorophenol	3.4E+06	--	4,000	400 U	460 U	430 U	410 U	470 U
4-Chlorophenyl phenyl ether	--	--	--	400 U	460 U	430 U	410 U	470 U
Chrysene	2.3E+05	1.0E+09	1.6E+05	240 J	460 U	430 U	410 U	470 U
Dibenzo(a,h)anthracene	200	--	2,000	400 U	460 U	430 U	410 U	470 U
Dibenzofuran	2.0E+06	1.3E+07	3.3E+04	400 U	460 U	430 U	410 U	470 U
Di-n-butyl phthalate	6.8E+07	1.0E+09	2.3E+06	400 U	460 U	430 U	410 U	470 U
1,2-Dichlorobenzene	6.2E+07	6.0E+05	1.7E+04	400 U	460 U	430 U	410 U	470 U
1,3-Dichlorobenzene	3.1E+06	--	--	400 U	460 U	430 U	410 U	470 U
1,4-Dichlorobenzene	8.0E+04	--	2,000	400 U	460 U	430 U	410 U	470 U
3,3'-Dichlorobenzidine	4,000	--	7	400 UJ	460 UJ	430 UJ	410 UJ	470 UJ

Table 5-40
Base Neutral/Acid Extractable Compound Concentrations in Subsurface Soil
SCYI RFI

Hazardous Waste Mixing Box (SWMU 39)
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Sample ID	Soil Ingestion/ Lab ID	Inhalation RBSL ²	Migration to Groundwater RBSL ³	39-01(3.0-3.5) BQ0871	39-01(11-11.5) BQ0872	39-01(15-15.5) BQ0873	39-02(11-11.5) BQ0874	39-03(11-11.5) BQ0876
Sample Date	Dermal RBSL ¹			28-Jun-96	28-Jun-96	28-Jun-96	28-Jun-96	28-Jun-96
BNAs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)								
2,4-Dichlorophenol	2.1E+06	--	1,000	400 U	460 U	430 U	410 U	470 U
Diethyl phthalate	5.5E+08	--	4.7E+05	400 U	460 U	430 U	410 U	470 U
Dimethyl phthalate	1.0E+10	--	--	400 U	460 U	430 U	410 U	470 U
2,4-Dimethylphenol	1.4E+07	--	9,000	400 U	460 U	430 U	410 U	470 U
4,6-Dinitro-o-cresol	1.0E+05	--	--	960 U	1100 U	1000 U	990 U	1100 U
2,4-Dinitrophenol	1.4E+06	--	200	960 UJ	1100 UJ	1000 UJ	990 UJ	1100 UJ
2,4-Dinitrotoluene	2.0E+06	--	0.8	400 U	460 U	430 U	410 U	470 U
2,6-Dinitrotoluene	1.0E+06	--	0.7	400 U	460 U	430 U	410 U	470 U
Di-n-octyl phthalate	1.4E+07	--	1.0E+07	400 U	460 UJ	430 U	410 U	470 U
Fluoranthene	2.4E+07	1.0E+09	4.3E+06	400 U	460 U	430 U	410 U	470 U
Fluorene	2.4E+07	7.4E+07	5.6E+05	400 U	460 U	430 U	410 U	470 U
Hexachlorobenzene	1,000	2,000	2,000	400 U	460 U	430 U	410 U	470 U
Hexachlorobutadiene	2.5E+04	1.3E+04	2,000	400 U	460 U	430 U	410 U	470 U
Hexachlorocyclopentadiene	4.1E+06	4.1E+04	4.0E+05	400 UJ	460 UJ	430 UJ	410 UJ	470 UJ
Hexachloroethane	1.4E+05	9.2E+04	500	400 U	460 U	430 U	410 U	470 U
Indeno(1,2,3-c,d)pyrene	2,000	2.6E+07	1.4E+04	400 U	460 U	430 U	410 U	470 U
Isophorone	2.0E+06	--	500	400 U	460 U	430 U	410 U	470 U
2-Methylnaphthalene	4.1E+06	--	1.7E+04	400 U	460 U	430 U	410 U	470 U
2-Methylphenol	3.4E+07	--	1.5E+04	400 U	460 U	430 U	410 U	470 U
4-Methylphenol	5.1E+06	--	--	400 U	460 U	430 U	410 U	470 U
N-Nitrosodiphenylamine	3.9E+05	--	1,000	400 U	460 U	430 U	410 U	470 U
N-Nitrosodi-n-propylamine	200	--	0.05	400 U	460 U	430 U	410 U	470 U
Naphthalene	1.2E+07	2.4E+05	8.4E+04	400 U	460 U	430 U	410 U	470 U
2-Nitroaniline	3.1E+06	--	--	960 U	1100 U	1000 U	990 U	1100 U
3-Nitroaniline	1.4E+05	--	--	960 U	1100 U	1000 U	990 U	1100 U
4-Nitroaniline	1.4E+05	--	--	960 U	1100 UJ	1000 UJ	990 UJ	1100 UJ
Nitrobenzene	3.4E+05	1.3E+05	100	400 U	460 U	430 U	410 U	470 U

Table 5-40
Base Neutral/Acid Extractable Compound Concentrations in Subsurface Soil
SCYI RFI
Hazardous Waste Mixing Box (SWMU 39)
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Sample ID	Soil Ingestion/ Inhalation	Migration to	Groundwater	BQ0871	BQ0872	BQ0873	BQ0874	BQ0876
Lab ID	Dermal RBSL ²	Groundwater RBSL ³	28-Jun-96	28-Jun-96	28-Jun-96	28-Jun-96	28-Jun-96	28-Jun-96
Sample Date	RBSL ¹							
BNAs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)								
2-Nitrophenol	--	--	400 U	460 U	430 U	410 U	470 U	470 U
4-Nitrophenol	--	--	960 U	1100 UJ	1000 UJ	990 UJ	1100 UJ	1100 UJ
2,2'-oxybis(1-chloropropane)	4.1E+04	--	400 U	460 U	430 U	410 U	470 U	470 U
Pentachlorophenol	1.0E+04	30	960 U	1100 U	1000 U	990 U	1100 U	1100 U
Phenanthrene	1.7E+07	4.2E+05	400 U	460 U	430 U	410 U	470 U	470 U
Phenol	2.1E+08	1.0E+09	400 U	460 U	430 U	410 U	470 U	470 U
Pyrene	1.8E+07	5.8E+08	94 J	460 U	430 U	410 U	470 U	470 U
1,2,4-Trichlorobenzene	6.8E+06	3.2E+06	400 U	460 U	430 U	410 U	470 U	470 U
2,4,5-Trichlorophenol	6.8E+07	--	960 U	1100 U	1000 U	990 U	1100 U	1100 U
2,4,6-Trichlorophenol	1.7E+05	3.4E+05	400 U	460 U	430 U	410 U	470 U	470 U

Any values exceeding RBSLs are shown shaded.

U - compound was analyzed for but not detected at the concentration shown

-- not available

J - estimated value

Notes:

- RBSLs for soil ingestion/dermal contact are the lower of EPA industrial SSLs (EPA, 2002), shown in italics, and EPA Region 3 (Oct 2004) industrial soil ingestion risk-l (RBCs), shown in standard font, except for benzo(ghi)perylene and phenanthrene, which are derived from TNRCC (March 2004).
- RBSLs for inhalation of volatiles in outdoor air are from EPA (2002).
- RBSLs for migration to groundwater are from EPA (2002) for a DAF of 20, except for benzo(ghi)perylene, dibenzofuran, 2-methylnaphthalene, and phenanthrene, which from TNRCC (March 2004).
- A detailed discussion concerning selection of RBSLs is provided in Section 5.1.2 of the report

Table 5-41
Metal Concentrations in Surface Soil
SCYI RFI
Hazardous Waste Mixing Box (SWMU 39)
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Sample ID	Soil Ingestion/ Inhalation	Migration to Background	39-01(1.0-1.5)	39-03 (1-1.5)
Lab ID	Dermal	RBSL ²	Groundwater	Level
Sample Date	RBSL ¹	1,600	RBSL ³	28-Jun-96
Metals (Reporting units are in mg/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)				
Antimony	410	--	5	9.2
Arsenic	1.9	770	29	8.7
Barium	7.2E+04	1.0E+06	1,600	183
Beryllium	2,000	2,600	63	0.4
Cadmium	900	3,400	8	0.8
Chromium	3,100	510	38	31
Cobalt	2.0E+04	1900	1300	17
Lead	400	--	--	32
Mercury	340	14	2	1.7
Nickel	2.0E+04	2.6E+04	130	28
Selenium	5,100	--	5	2.2
Vanadium	1,000	--	6,000	139

Any values exceeding RBSLs are shown shaded.

U - compound was analyzed for but not detected at the concentration shown

J - estimated based on data validation

B - concentration is between the instrument detection limit (IDL) and contract required detection limit (CRDL). Detections may be the result of instrument noise and other lab artifacts, especially near the IDL.

-- not available

Notes:

1. RBSLs for soil ingestion/dermal contact are the lower of EPA industrial SSLs (EPA, 2002), shown in italics, and EPA Region 3 (Oct 2004) industrial soil ingestion risk-based concentrations, shown in standard font.
2. RBSLs for inhalation of particulates or vapor in outdoor air are from EPA (2002).

Table 5-42
Metal Concentrations in Subsurface Soil
SCYI RFI
Hazardous Waste Mixing Box (SWMU 39)
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Sample ID	Soil Ingestion/ Dermal	Inhalation RBSL ²	Migration to Groundwater	Background Level	39-01(3.0-3.5)	39-01(11-11.5)	39-01(15-15.5)	39-02(11-11.5)	39-03(11-11.5)
Lab ID					BQ0871	BQ0872	BQ0873	BQ0874	BQ0876
Sample Date			RBSL ³		28-Jun-96	28-Jun-96	28-Jun-96	28-Jun-96	28-Jun-96
Metals (Reporting units are in mg/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)									
Antimony	410	--	5	9.2	8 UJ	8.2 UJ	8.4 UJ	8.4 UJ	9.1 UJ
Arsenic	1.9	770	29	8.7	1.7 BJ	0.85 U	1.6 BJ	1.6 BJ	0.95 U
Barium	7.2E+04	1.0E+06	1,600	183	124	84	129	147	261
Beryllium	2,000	2,600	63	0.4	0.3 B	0.41 B	0.5 B	0.51 B	0.79 B
Cadmium	900	3,400	8	0.8	0.43 U	0.44 U	0.45 U	0.45 U	0.49 U
Chromium	3,100	510	38	31	14.1	2.2 B	12.2	3.5	7.3
Cobalt	2.0E+04	1900	1300	17	11.4 B	7.9 B	25.3	12.1 B	16.6
Lead	400	--	--	32	4.6	2.3	3	2.9	5
Mercury	340	14	2	1.7	0.55	0.05 U	0.05 U	0.05 U	0.05 U
Nickel	2.0E+04	2.5E+04	130	28	48.2	1.5 U	7.1 B	1.7 B	4.5 B
Selenium	5,100	--	5	2.2	1.7 J	0.88 U	0.9 UJ	0.9 U	0.98 U
Vanadium	1,000	--	6,000	139	175	91.2	159	95.8	167

Any values exceeding RBSLs are shown shaded.

U - compound was analyzed for but not detected at the concentration shown

J - estimated based on data validation

B - concentration is between the instrument detection limit (IDL) and contract required detection limit (CRDL). Detections may be the result of instrument noise and other lab artifacts, especially near the IDL.

-- not available

Notes:

1. RBSLs for soil ingestion/dermal contact are the lower of EPA industrial SSLs (EPA, 2002), shown in italics, and EPA Region 3 (Oct 2004) industrial soil ingestion risk-based concentrations, shown in standard font.
2. RBSLs for inhalation of particulates or vapor in outdoor air are from EPA (2002).

Table 5-43
Immunoassay Field Screening Results
SCYI RFI
Hazardous Waste Mixing Box (SWMU 39)
 (Page 1 of 1)

Sample Location	Depth (ft)			BTEX			PAH		
	1.0-1.5	3.0-3.5	11.0-11.5	1.0-1.5	3.0-3.5	11.0-11.5	1.0-1.5	3.0-3.5	11.0-11.5
39-01	> 35	ND	5.2	ND	ND	ND	ND	> 25	0.8
39-02	ND	8		> 25			> 25	> 25	
39-03	9	ND		> 25			> 25	> 25	

Notes:

1. All immunoassay concentrations are in ppm.
2. ND means non-detect. The detection limit was 2.5 ppm for BTEX and 0.6 ppm for PAHs.
3. A blank box denotes not a sampled depth.
4. Bolded boxes indicate concentrations above site screening levels of 2.5 ppm for BTEX and 5 ppm for PAHs. Concentrations above site screening levels may also be due to cross-reactivity to non-target constituents.

Table 5-44
 Volatile Organic Compounds in Surface Soil
 SCYI RFI
 North East Refinery Area (SWMU 40)
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Sample ID	Soil Ingestion/ Dermal RBSL ¹	Inhalation RBSL ²	Migration to Groundwater RBSL ³	40-01(1.5-2) BQ0875	40-02(1.5-2.0) BQ0825	40-03(1.5-2) BQ0859
Lab ID				28-Jun-96	25-Jun-96	26-Jun-96
Sample Date						
VOCs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)						
Acetone	1.1E+08	5.8E+07	1.6E+04	11 U	2600 DJ	640 J
Benzene	5.2E+04	800	30	11 U	68 UJ	56 U
Bromodichloromethane	4.6E+04	--	600	11 U	68 UJ	56 U
Bromoform	3.6E+05	8.8E+04	800	11 U	68 UJ	56 UJ
Bromomethane	1.4E+06	1.3E+04	200	11 U	68 UJ	56 U
2-Butanone	6.1E+08	1.4E+08	2.9E+04	11 U	290 U	150 J
Carbon disulfide	1.0E+08	7.2E+05	3.2E+04	11 U	67 J	23 J
Carbon tetrachloride	2.2E+04	300	70	11 U	68 UJ	56 U
Chlorobenzene	2.0E+07	5.4E+05	1000	11 U	68 UJ	56 UJ
Chloroethane	3.4E+04	--	400	11 U	68 U	56 U
Chloroform	9.9E+05	--	6.00E+02	11 U	68 U	56 U
Chloromethane	1.0E+07	300	600	11 U	68 UJ	56 U
Dibromochloromethane	--	--	--	11 U	68 UJ	56 UJ
1,1-Dichloroethane	1.0E+08	1.7E+06	2.3E+04	11 U	68 U	56 U
1,2-Dichloroethane	3.1E+04	600	20	11 U	68 UJ	56 U
1,1-Dichloroethene	5.1E+07	4.1E+05	60	11 U	68 U	56 U
1,2-Dichloroethene (total)	9.2E+06	1.5E+05	400	11 U	68 UJ	56 U
1,2-Dichloropropane	4.2E+04	2.1E+04	30	11 U	68 UJ	56 U
cis-1,3-Dichloropropene	2.9E+04	--	4	11 U	68 UJ	56 U
trans-1,3-Dichloropropene	2.9E+04	--	4	11 U	68 UJ	56 UJ
Ethylbenzene	1.0E+08	4.0E+05	1.3E+04	11 U	68 UJ	56 UJ
2-Hexanone	--	--	--	11 U	68 UJ	56 UJ
Methylene chloride	3.8E+05	2.2E+04	20	6 J	68 U	56 U
4-Methyl-2-Pentanone	--	--	--	11 U	68 UJ	56 UJ
Styrene	2.0E+08	1.5E+06	4000	11 U	68 UJ	56 UJ
1,1,2,2-Tetrachloroethane	1.4E+04	1000	3	11 U	68 UJ	56 UJ
Tetrachloroethene	5300	2000	60	11 U	68 UJ	56 UJ
Toluene	2.0E+08	6.5E+05	1.2E+04	11 U	14 J	56 UJ
1,1,1-Trichloroethane	2.9E+08	1.2E+06	2000	11 U	68 UJ	56 U
1,1,2-Trichloroethane	5.0E+04	2000	200	11 U	68 UJ	56 UJ
Trichloroethene	7200	100	60	11 U	68 UJ	56 U
Vinyl chloride	4000	1000	10	11 U	68 U	56 U
Xylene (total)	1.0E+09	9.0E+05	1.9E+05	11 U	68 UJ	56 UJ

Any values exceeding RBSLs are shown shaded.

U - compound was analyzed for but not detected at the concentration shown

D - analyzed at a secondary dilution factor

J - estimated value

-- not available

Notes:

1. RBSLs for soil ingestion/dermal contact are the lower of EPA industrial SSLs (EPA, 2002), shown in italics, and EPA Region 3 (Oct 2004) industrial soil ingestion risk-based concentrations, shown in standard font.
2. RBSLs for inhalation of volatiles in outdoor air are from EPA (2002), except for acetone and 2-butanone, which are from EPA Region 9 PRGs (Oct 2004).
3. RBSLs for migration to groundwater are from EPA (2002) for a DAF of 20, except for 2-butanone, which is from TNRCC (March 2004).
4. A detailed discussion concerning selection of RBSLs is provided in Section 5.1.2 of the report.

Table S-45
 Volatile Organic Compound Concentrations in Subsurface Soil
 SCYI RFI

North East Refinery Area (SWMU 40)
 (Page 1 of 2)

Sample ID	Soil Ingestion/ Dermal RBSL ¹	Inhalation RBSL ²	Migration to Groundwater RBSL ³	40-01(3.0-3.5)40-01(11.5-12.0)40-01(11.5-12.0)40-02(3.0-3.5)40-02(14.5-15.0)40-03(3.0-3.5)40-03(12.5-13.0)40-04(11.5-13.0)	24 J	54 J	18 J	140 UJ	84 UJ	1700 DJ	170 J	95 J
Lab ID	BQ0855	BQ0854	BQ0862	BQ0823	BQ0820	BQ0857	BQ0858	BQ0852				
Sample Date	27-Jun-96	27-Jun-96	27-Jun-96	25-Jun-96	25-Jun-96	25-Jun-96	25-Jun-96	27-Jun-96	25-Jun-96	25-Jun-96	25-Jun-96	27-Jun-96
VOCs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)												
Acetone	1.1E+08	5.8E+07	1.6E+04	24 J	54 J	18 J	140 UJ	84 UJ	1700 DJ	170 J	95 J	
Benzene	5.2E+04	800	30	11 U	14 UJ	10 U	12 UJ	16 UJ	64 U	13 U	14 UJ	
Bromodichloromethane	4.6E+04	--	600	11 U	14 UJ	10 U	12 UJ	16 UJ	64 U	13 U	14 UJ	
Bromoform	3.6E+05	8.8E+04	800	11 U	14 UJ	10 U	12 UJ	16 UJ	64 U	13 U	14 UJ	
Bromomethane	1.4E+06	1.3E+04	200	11 U	14 UJ	10 U	12 UJ	16 UJ	64 U	13 U	14 U	
2-Butanone	6.1E+08	1.4E+08	2.9E+04	11 U	14 UJ	10 U	23 U	16 U	300 J	10 J	10 J	
Carbon disulfide	1.0E+08	7.2E+05	3.2E+04	1 J	14 UJ	10 U	18 J	16 UJ	50 J	13 U	14 U	
Carbon tetrachloride	2.2E+04	300	70	11 U	14 UJ	10 U	12 UJ	16 UJ	64 U	13 U	14 UJ	
Chlorobenzene	2.0E+07	5.4E+05	1000	11 U	14 UJ	10 U	12 UJ	16 UJ	64 U	13 U	14 UJ	
Chloroethane	3.4E+04	--	400	11 U	14 UJ	10 U	12 UJ	16 UJ	64 U	13 U	14 U	
Chloroform	9.9E+05	--	6.00E+02	11 U	14 UJ	10 U	12 UJ	16 UJ	64 U	13 U	14 U	
Chloromethane	1.0E+07	300	600	11 U	14 UJ	10 U	12 UJ	16 UJ	64 U	13 U	14 U	
Dibromochloromethane	--	--	--	11 U	14 UJ	10 U	12 UJ	16 UJ	64 U	13 U	14 UJ	
1,1-Dichloroethane	1.0E+08	1.7E+06	2.3E+04	11 U	14 UJ	10 U	12 UJ	16 UJ	64 U	13 U	14 UJ	
1,2-Dichloroethane	3.1E+04	600	20	11 U	14 UJ	10 U	12 UJ	16 UJ	64 U	13 U	14 U	
1,1-Dichloroethene	5.1E+07	4.1E+05	60	11 U	14 UJ	10 U	12 UJ	16 UJ	64 U	13 U	14 U	
1,2-Dichloroethene (total)	9.2E+06	1.5E+05	400	11 U	14 UJ	10 U	12 UJ	16 UJ	64 U	13 U	14 U	
1,2-Dichloropropane	4.2E+04	2.1E+04	30	11 U	14 UJ	10 U	12 UJ	16 UJ	64 U	13 U	14 UJ	
cis-1,3-Dichloropropene	2.9E+04	--	4	11 U	14 UJ	10 U	12 UJ	16 UJ	64 U	13 U	14 UJ	
trans-1,3-Dichloropropene	2.9E+04	--	4	11 U	14 UJ	10 U	12 UJ	16 UJ	64 U	13 U	14 UJ	
Ethylbenzene	1.0E+08	4.0E+05	1.3E+04	11 U	14 UJ	10 U	12 UJ	16 UJ	64 U	13 U	14 UJ	
2-Hexanone	--	--	--	11 U	14 UJ	10 U	12 UJ	16 UJ	64 U	13 U	14 UJ	
Methylene chloride	3.8E+05	2.2E+04	20	11 U	14 UJ	14 UJ	12 UJ	16 UJ	64 U	13 U	14 U	
4-Methyl-2-Pentanone	--	--	--	11 U	14 UJ	10 U	12 UJ	16 UJ	64 U	13 U	14 UJ	
Styrene	2.0E+08	1.5E+06	4000	11 U	14 UJ	10 U	12 UJ	16 UJ	64 U	13 U	14 UJ	
1,1,2,2-Tetrachloroethane	1.4E+04	1000	3	11 U	14 UJ	10 U	12 UJ	16 UJ	64 U	13 U	14 UJ	
Tetrachloroethene	5300	2000	60	11 U	14 UJ	10 U	12 UJ	16 UJ	64 U	13 U	14 UJ	
Toluene	2.0E+08	6.5E+05	1.2E+04	11 U	14 UJ	10 U	12 UJ	16 UJ	64 U	13 U	14 UJ	
1,1,1-Trichloroethane	2.9E+08	1.2E+06	2000	11 U	14 UJ	10 U	12 UJ	16 UJ	64 U	13 U	14 U	
1,1,2-Trichloroethane	5.0E+04	2000	20	11 U	14 UJ	10 U	12 UJ	16 UJ	64 U	13 U	14 UJ	
Trichloroethene	7200	100	60	11 U	14 UJ	10 U	12 UJ	16 UJ	64 U	13 U	14 UJ	
Vinyl chloride	4000	1000	10	11 U	14 UJ	10 U	12 UJ	16 UJ	64 U	13 U	14 U	
Xylene (total)	1.0E+09	9.0E+05	1.9E+05	11 U	14 UJ	10 U	12 UJ	16 UJ	64 U	13 U	14 UJ	

Any values exceeding RBSLs are shown shaded.
 U - compound was analyzed for but not detected at the concentration shown
 D - analyzed at a secondary dilution factor
 J - estimated value
 -- not available

Notes:
 1. RBSLs for soil ingestion/dermal contact are the lower of EPA industrial SSLs (EPA, 2002), shown in italics, and EPA Region 3 (Oct 2004) industrial soil ingestion risk-based concentrations, shown in standard font.
 2. RBSLs for inhalation of volatiles in outdoor air are from EPA (2002), except for acetone and 2-butanone, which are from EPA Region 9 PRGs (Oct 2004).
 3. RBSLs for migration to groundwater are from EPA (2002) for a DAF of 20, except for 2-butanone, which is from TNRCC (March 2004).
 4. A detailed discussion concerning selection of RBSLs is provided in Section 5.1.2 of the report.

Table 5-45
Volatile Organic Compound Concentrations in Subsurface Soil
SCYI RFI

North East Refinery Area (SWMU 40)
(Page 2 of 2)

Sample ID	Soil Ingestion/ Dermal	Inhalation	Migration to Groundwater	Sample depths in feet are shown in parentheses as part of the sample ID.	43 J	39 J	1400 U	15 J	270 J	180 J
Lab ID	RBSL ¹	RBSL ²	RBSL ³		BQ0865	BQ0864	BQ0818	BQ0856	BQ0863	BQ0853
Sample Date					27-Jun-96	25-Jun-96	25-Jun-96	26-Jun-96	26-Jun-96	27-Jun-96
VOCs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)										
Acetone	1.1E+08	5.8E+07	1.6E+04		12 UJ	14 U	1400 U	14 U	32 U	120 U
Benzene	5.2E+04	800	30		12 UJ	14 U	1400 U	14 U	32 U	120 U
Bromodichloromethane	4.6E+04	--	600		12 UJ	14 U	1400 U	14 U	32 U	120 U
Bromoform	3.6E+05	8.8E+04	800		12 UJ	14 U	1400 U	14 U	32 U	120 U
Bromomethane	1.4E+06	1.3E+04	200		12 UJ	14 U	1400 UJ	14 U	32 U	120 U
2-Butanone	6.1E+08	1.4E+08	2.9E+04		12 UJ	14 U	1400 U	14 U	69 J	120 U
Carbon disulfide	1.0E+08	7.2E+05	3.2E+04		12 UJ	14 U	1400 U	14 U	7 J	120 U
Carbon tetrachloride	2.2E+04	300	70		12 UJ	14 U	1400 U	14 U	32 U	120 U
Chlorobenzene	2.0E+07	5.4E+05	1000		12 UJ	14 U	1400 U	14 U	32 U	120 U
Chloroethane	3.4E+04	--	400		12 UJ	14 U	1400 UJ	14 U	32 U	120 U
Chloroform	9.9E+05	--	6.00E+02		12 UJ	14 U	1400 U	14 U	32 U	120 U
Chloromethane	1.0E+07	300	600		12 UJ	14 U	1400 U	14 U	32 U	120 U
Dibromochloromethane	--	--	--		12 UJ	14 U	1400 U	14 U	32 U	120 U
1,1-Dichloroethane	1.0E+08	1.7E+06	2.3E+04		12 UJ	14 U	1400 U	14 U	32 U	120 U
1,2-Dichloroethane	3.1E+04	600	20		12 UJ	14 U	1400 U	14 U	32 U	120 U
1,1-Dichloroethene	5.1E+07	4.1E+05	60		12 UJ	14 U	1400 U	14 U	32 U	120 U
1,2-Dichloroethene (total)	9.2E+06	1.5E+05	400		12 UJ	14 U	1400 U	14 U	32 U	120 U
1,2-Dichloropropane	4.2E+04	2.1E+04	30		12 UJ	14 U	1400 U	14 U	32 U	120 U
cis-1,3-Dichloropropene	2.9E+04	--	4		12 UJ	14 U	1400 U	14 U	32 U	120 U
trans-1,3-Dichloropropene	2.9E+04	--	4		12 UJ	14 U	1400 U	14 U	32 U	120 U
Ethylbenzene	1.0E+08	4.0E+05	1.3E+04		12 UJ	14 U	1400 U	14 U	32 U	120 U
2-Hexanone	--	--	--		12 UJ	14 U	1400 U	14 U	32 U	120 U
Methylene chloride	3.8E+05	2.2E+04	20		12 UJ	14 U	1400 U	14 U	34 U	120 U
4-Methyl-2-Pentanone	--	--	--		12 UJ	14 U	1400 U	14 U	32 U	120 U
Styrene	2.0E+08	1.5E+06	4000		12 UJ	14 U	1400 U	14 U	32 U	120 U
1,1,2,2-Tetrachloroethane	1.4E+04	1000	3		12 UJ	14 U	1400 U	14 U	32 U	120 U
Tetrachloroethene	5300	2000	60		12 UJ	14 U	1400 U	14 U	32 U	120 U
Toluene	2.0E+08	6.5E+05	1.2E+04		12 UJ	14 U	1400 U	14 U	32 U	120 U
1,1,1-Trichloroethane	2.9E+08	1.2E+06	2000		12 UJ	14 U	1400 U	14 U	32 U	120 U
1,1,2-Trichloroethane	5.0E+04	2000	20		12 UJ	14 U	1400 U	14 U	32 U	120 U
Trichloroethene	7200	100	60		12 UJ	14 U	1400 U	14 U	32 U	120 U
Vinyl chloride	4000	1000	10		12 UJ	14 U	1400 UJ	14 U	32 U	120 U
Xylene (total)	1.0E+09	9.0E+05	1.9E+05		12 UJ	14 U	1400 U	14 U	32 U	130

Any values exceeding RBSLs are shown shaded.

U - compound was analyzed for but not detected at the concentration shown D - analyzed at a secondary dilution factor J - estimated value -- not available

Notes:

1. RBSLs for soil ingestion/dermal contact are the lower of EPA industrial SSLs (EPA, 2002), shown in italics, and EPA Region 3 (Oct 2004) industrial soil ingestion risk-based concentrations, shown in standard for
2. RBSLs for inhalation of volatiles in outdoor air are from EPA (2002), except for acetone and 2-butanone, which are from EPA Region 9 PRGs (Oct 2004).
3. RBSLs for migration to groundwater are from EPA (2002) for a DAF of 20, except for 2-butanone, which is from TNRC (March 2004).
4. A detailed discussion concerning selection of RBSLs is provided in Section 5.1.2 of the report.

Table 5-46
Base Neutral/Acid Extractable Compound Concentrations in Surface Soil
SCYI RFI
North East Refinery Area (SWMU 40)
 (Page 1 of 3)

Sample ID	Soil Ingestion/ Dermal	Inhalation	Migration to Groundwater	40-01(0.5-1.5)	40-02(0.5-1.5)	40-03(1-1.5)	40-03(1.5-2)
Lab ID	RBSL ¹	RBSL ²	RBSL ³	BQ0861	BQ0824	BQ0860	BQ0859
Sample Date	27-Jun-96	25-Jun-96	25-Jun-96	25-Jun-96	25-Jun-96	25-Jun-96	26-Jun-96
BNAs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)							
Acenaphthene	3.7E+07	5.6E+07	5.7E+05	350 U	390 U	2000 U	370 U
Acenaphthylene	--	--	--	350 U	390 U	2000 U	370 U
Anthracene	1.8E+08	1.0E+09	1.2E+07	350 U	390 U	2000 U	370 U
Benzo(a)anthracene	2000	--	2,000	350 U	390 U	2000 U	370 U
Benzo(b)fluoranthene	2000	2.6E+07	5,000	350 U	390 U	2000 U	370 U
Benzo(k)fluoranthene	2.3E+04	2.6E+08	4.9E+04	350 U	390 U	2000 U	370 U
Benzo(ghi)perylene	1.7E+07	--	4.6E+07	350 U	390 U	2000 U	370 U
Benzo(a)pyrene	200	2.6E+06	8,000	350 U	390 U	2000 U	370 U
bis(2-Chloroethoxy)methane	--	--	--	350 U	390 U	2000 U	370 U
bis(2-Chloroethyl) ether	2000	400	0.4	350 U	390 U	2000 U	370 U
bis(2-Ethylhexyl)phthalate	1.4E+05	1.0E+09	3.6E+06	350 U	680 U	2000 U	290 J
4-Bromophenyl phenyl ether	--	--	--	350 U	390 U	2000 U	370 U
Butyl benzyl phthalate	1.4E+08	--	9.3E+05	350 U	390 U	2000 U	370 U
Carbazole	9.6E+04	9.4E+08	600	350 U	390 U	2000 U	370 U
4-Chloroaniline	2.7E+06	--	700	350 U	390 U	2000 U	370 U
p-Chloro-m-cresol	--	--	--	350 U	390 U	2000 U	370 U
2-Chloronaphthalene	8.2E+07	--	--	350 U	390 U	2000 U	370 U
2-Chlorophenol	3.4E+06	--	4,000	350 U	390 U	2000 U	370 U
4-Chlorophenyl phenyl ether	--	--	--	350 U	390 U	2000 U	370 U
Chrysene	2.3E+05	1.0E+09	1.6E+05	350 U	140 J	2000 U	370 U
Dibenzo(a,h)anthracene	200	--	2,000	350 U	390 U	2000 U	370 U
Dibenzofuran	2.0E+06	1.3E+07	3.3E+04	350 U	390 U	2000 U	370 U
Di-n-butyl phthalate	6.8E+07	1.0E+09	2.3E+06	350 U	390 U	2000 U	170 J
1,2-Dichlorobenzene	6.2E+07	6.0E+05	1.7E+04	350 U	390 U	2000 U	370 U
1,3-Dichlorobenzene	3.1E+06	--	--	350 U	390 U	2000 U	370 U
1,4-Dichlorobenzene	8.0E+04	--	2,000	350 U	390 U	2000 U	370 U
3,3'-Dichlorobenzidine	4,000	--	7	350 U	390 U	2000 U	370 U

Table 5-46
Base Neutral/Acid Extractable Compound Concentrations in Surface Soil
SCYI RFI
North East Refinery Area (SWMU 40)
 (Page 2 of 3)

Sample ID	Soil Ingestion/ Dermal	Inhalation	Migration to	40-01(0.5-1.5)	40-02(0.5-1.5)	40-03(1-1.5)	40-03(1.5-2)
Lab ID	RBSL ¹	RBSL ²	Groundwater	BQO861	BQO824	BQO860	BQO859
Sample Date	RBSL ¹	RBSL ²	RBSL ³	27-Jun-96	25-Jun-96	25-Jun-96	26-Jun-96
BNAs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)							
2,4-Dichlorophenol	2.1E+06	--	1,000	350 U	390 U	2000 U	370 U
Diethyl phthalate	5.5E+08	--	4.7E+05	350 U	390 U	2000 U	370 U
Dimethyl phthalate	1.0E+10	--	--	350 U	390 U	2000 U	370 U
2,4-Dimethylphenol	1.4E+07	--	9,000	840 U	390 U	4900 U	890 U
4,6-Dinitro-o-cresol	1.0E+05	--	--	840 U	950 U	4900 U	890 U
2,4-Dinitrophenol	1.4E+06	--	200	350 UJ	950 U	2000 UJ	370 UJ
2,4-Dinitrotoluene	2.0E+06	--	0.8	350 U	390 U	2000 U	370 U
2,6-Dinitrotoluene	1.0E+06	--	0.7	350 U	390 U	2000 U	370 U
Di-n-octyl phthalate	1.4E+07	--	1.0E+07	350 U	390 U	2000 U	370 U
Fluoranthene	2.4E+07	1.0E+09	4.3E+06	350 U	390 U	2000 U	370 U
Fluorene	2.4E+07	7.4E+07	5.6E+05	350 U	390 U	2000 U	370 U
Hexachlorobenzene	1,000	2,000	2,000	350 U	390 U	2000 U	370 U
Hexachlorobutadiene	2.5E+04	1.3E+04	2,000	350 U	390 U	2000 U	370 U
Hexachlorocyclopentadiene	4.1E+06	4.1E+04	4.0E+05	350 U	390 U	2000 UJ	370 U
Hexachloroethane	1.4E+05	9.2E+04	500	350 U	390 U	2000 U	370 U
Indeno(1,2,3-c,d)pyrene	2,000	2.6E+07	1.4E+04	350 U	390 U	2000 U	370 U
Isophorone	2.0E+06	--	500	350 U	390 U	2000 U	370 U
2-Methylnaphthalene	4.1E+06	--	1.7E+04	350 U	180 J	2000 U	370 U
2-Methylphenol	3.4E+07	--	1.5E+04	350 U	390 UJ	2000 U	370 U
4-Methylphenol	5.1E+06	--	--	350 U	390 U	2000 U	370 U
N-Nitrosodiphenylamine	3.9E+05	--	1,000	350 U	390 U	2000 U	370 U
N-Nitrosodi-n-propylamine	200	--	0.05	350 U	390 U	2000 U	370 U
Naphthalene	1.2E+07	2.4E+05	8.4E+04	350 U	45 J	2000 U	370 U
2-Nitroaniline	3.1E+06	--	--	840 U	950 U	4900 U	890 U
3-Nitroaniline	1.4E+05	--	--	840 U	950 U	4900 U	890 U
4-Nitroaniline	1.4E+05	--	--	840 U	950 U	4900 UJ	890 U
Nitrobenzene	3.4E+05	1.3E+05	100	350 U	390 U	2000 U	370 U

Table 5-46
Base Neutral/Acid Extractable Compound Concentrations in Surface Soil
 SCYI RFI
 North East Refinery Area (SWMU 40)
 (Page 3 of 3)

Sample ID	Soil Ingestion/ Dermal	Inhalation RBSL ²	Migration to Groundwater	40-01(0.5-1.5)	40-02(0.5-1.5)	40-03(1-1.5)	40-03(1.5-2)
Lab ID	RBSL ¹	RBSL ²	RBSL ³	BQ0861	BQ0824	BQ0860	BQ0859
Sample Date				27-Jun-96	25-Jun-96	25-Jun-96	26-Jun-96
BNAs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)							
2-Nitrophenol	--	--	--	350 U	390 U	2000 U	370 U
4-Nitrophenol	--	--	--	840 UJ	950 U	4900 UJ	890 UJ
2,2'-oxybis(1-chloropropane)	4.1E+04	--	--	350 UJ	390 U	2000 UJ	370 UJ
Pentachlorophenol	1.0E+04	--	30	840 U	950 U	4900 UJ	890 U
Phenanthrene	1.7E+07	--	4.2E+05	350 U	390 U	2000 U	370 U
Phenol	2.1E+08	1.0E+09	1.0E+05	350 U	57 J	2000 U	370 U
Pyrene	1.8E+07	5.8E+08	4.2E+06	350 U	170 J	2000 U	370 U
1,2,4-Trichlorobenzene	6.8E+06	3.2E+06	5,000	350 U	390 U	2000 U	370 U
2,4,5-Trichlorophenol	6.8E+07	--	2.7E+05	840 U	950 U	4900 U	890 U
2,4,6-Trichlorophenol	1.7E+05	3.4E+05	200	350 U	390 U	2000 U	370 U

Any values exceeding RBSLs are shown shaded.

U - compound was analyzed for but not detected at the concentration shown

-- not available

J - estimated value

Notes:

1. RBSLs for soil ingestion/dermal contact are the lower of EPA industrial SSLs (EPA, 2002), shown in italics, and EPA Region 3 (Oct 2004) industrial soil ingestion risk-based concentrations (RBCs), shown in standard font, except for benzo(ghi)perylene and phenanthrene, which are derived from TNRCC (March 2004).
2. RBSLs for inhalation of volatiles in outdoor air are from EPA (2002).

Table 5-47
Base Neutral/Acid Extractable Compound Concentrations in Subsurface Soil
SCYI RFI
North East Refinery Area (SWMU 40)
 (Page 1 of 9)

Sample ID	Soil Ingestion/ Dermal	Inhalation RBSL ²	Migration to Groundwater	40-01(3-3.5)	40-01(11.5-12)	40-02(3.0-3.5)	40-02(14.5-15.0)	40-03(3-3.5)	40-03(12.5-13)
Lab ID	RBSL ¹	RBSL ²	RBSL ³	BQ0855	BQ0854	BQ0821	BQ0819	BQ0857	BQ0858
Sample Date	27-Jun-96	27-Jun-96	27-Jun-96	27-Jun-96	27-Jun-96	25-Jun-96	25-Jun-96	25-Jun-96	25-Jun-96
BNAs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)									
Acenaphthene	3.7E+07	5.6E+07	5.7E+05	350 U	470 U	380 U	520 U	4200 U	430 U
Acenaphthylene	--	--	--	350 U	470 U	380 U	520 U	4200 U	430 U
Anthracene	1.8E+08	1.0E+09	1.2E+07	350 U	470 U	380 U	520 U	4200 U	430 U
Benzo(a)anthracene	2000	--	2,000	350 U	470 U	380 U	520 U	4200 UJ	430 U
Benzo(b)fluoranthene	2000	2.6E+07	5,000	350 U	470 U	380 U	520 U	4200 UJ	430 U
Benzo(k)fluoranthene	2.3E+04	2.6E+08	4.9E+04	350 U	470 U	380 U	520 U	4200 UJ	430 U
Benzo(ghi)perylene	1.7E+07	--	4.6E+07	350 U	470 U	380 U	520 U	2000 J	430 U
Benzo(a)pyrene	200	2.6E+06	8,000	350 U	470 U	380 U	520 U	2600 J	430 U
bis(2-Chloroethoxy)methane	--	--	--	350 U	470 U	380 U	520 U	4200 U	430 U
bis(2-Chloroethyl) ether	2000	400	0.4	350 U	470 U	380 U	520 U	4200 U	430 U
bis(2-Ethylhexyl)phthalate	1.4E+05	1.0E+09	3.6E+06	350 UJ	470 UJ	480 U	520 U	4200 UJ	430 U
4-Bromophenyl phenyl ether	--	--	--	350 U	470 U	380 U	520 U	4200 U	430 U
Butyl benzyl phthalate	1.4E+08	--	9.3E+05	350 U	470 U	380 U	520 U	4200 UJ	430 U
Carbazole	9.6E+04	9.4E+08	600	350 U	470 U	380 U	520 U	4200 U	430 U
4-Chloroaniline	2.7E+06	--	700	350 U	470 U	380 U	520 U	4200 U	430 U
p-Chloro-m-cresol	--	--	--	350 U	470 U	380 U	520 U	4200 U	430 U
2-Chloronaphthalene	8.2E+07	--	--	350 U	470 U	380 U	520 U	4200 U	430 U
2-Chlorophenol	3.4E+06	--	4,000	350 U	470 U	380 U	520 U	4200 U	430 U
4-Chlorophenyl phenyl ether	--	--	--	350 U	470 U	380 U	520 U	4200 U	430 U
Chrysene	2.3E+05	1.0E+09	1.6E+05	350 U	470 U	140 J	520 U	4200 UJ	430 U
Dibenzo(a,h)anthracene	200	--	2,000	350 U	470 U	380 U	520 U	4200 UJ	430 U
Dibenzofuran	2.0E+06	1.3E+07	3.3E+04	350 U	470 U	380 U	520 U	4200 U	430 U
Di-n-butyl phthalate	6.8E+07	1.0E+09	2.3E+06	350 U	470 U	380 U	520 U	4200 U	430 U
1,2-Dichlorobenzene	6.2E+07	6.0E+05	1.7E+04	350 U	470 U	380 U	520 U	4200 U	430 U
1,3-Dichlorobenzene	3.1E+06	--	--	350 U	470 U	380 U	520 U	4200 U	430 U
1,4-Dichlorobenzene	8.0E+04	--	2,000	350 U	470 U	380 U	520 U	4200 U	430 U
3,3'-Dichlorobenzidine	4,000	--	7	350 UJ	470 UJ	380 U	520 U	4200 UJ	430 U

Table 5-47
Base Neutral/Acid Extractable Compound Concentrations in Subsurface Soil
SCYI RFI
North East Refinery Area (SWMU 40)
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Sample ID	Soil Ingestion/ Dermal RBSL ¹	Inhalation RBSL ²	Migration to Groundwater RBSL ³	40-01(3-3.5)	40-01(11.5-12)	40-02(3.0-3.5)	40-02(14.5-15.0)	40-03(3-3.5)	40-03(12.5-13)
Lab ID	BQ0855	BQ0854	BQ0821	BQ0819	BQ0857	BQ0858			
Sample Date	27-Jun-96	27-Jun-96	25-Jun-96	25-Jun-96	25-Jun-96	25-Jun-96			
BNAs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)									
2,4-Dichlorophenol	2.1E+06	--	1,000	470 U	380 U	520 U	4200 U	430 U	430 U
Diethyl phthalate	5.5E+08	--	4.7E+05	470 U	380 U	520 U	4200 U	430 U	430 U
Dimethyl phthalate	1.0E+10	--	--	470 U	380 U	520 U	4200 U	430 U	430 U
2,4-Dimethylphenol	1.4E+07	--	9,000	470 U	380 U	520 U	4200 U	430 U	430 U
4,6-Dinitro-o-cresol	1.0E+05	--	--	1100 U	930 U	1300 U	10000 U	1000 U	1000 U
2,4-Dinitrophenol	1.4E+06	--	200	1100 UJ	930 U	1300 U	10000 U	1000 UJ	1000 UJ
2,4-Dinitrotoluene	2.0E+06	--	0.8	470 U	380 U	520 U	4200 U	430 U	430 U
2,6-Dinitrotoluene	1.0E+06	--	0.7	470 U	380 U	520 U	4200 U	430 U	430 U
Di-n-octyl phthalate	1.4E+07	--	1.0E+07	470 UJ	380 U	520 U	4200 UJ	430 U	430 U
Fluoranthene	2.4E+07	1.0E+09	4.3E+06	470 U	380 U	520 U	4200 U	430 U	430 U
Fluorene	2.4E+07	7.4E+07	5.6E+05	470 U	380 U	520 U	4200 U	430 U	430 U
Hexachlorobenzene	1,000	2,000	2,000	470 U	380 U	520 U	4200 U	430 U	430 U
Hexachlorobutadiene	2.5E+04	1.3E+04	2,000	470 U	380 U	520 U	4200 U	430 U	430 U
Hexachlorocyclopentadiene	4.1E+06	4.1E+04	4.0E+05	470 UJ	380 U	520 U	4200 UJ	430 U	430 U
Hexachloroethane	1.4E+05	9.2E+04	500	470 U	380 U	520 U	4200 U	430 U	430 U
Indeno(1,2,3-c,d)pyrene	2,000	2.6E+07	1.4E+04	470 U	380 U	520 U	4200 UJ	430 U	430 U
Isophorone	2.0E+06	--	500	470 U	380 U	520 U	4200 U	430 U	430 U
2-Methylnaphthalene	4.1E+06	--	1.7E+04	470 U	330 J	260 J	4200 U	430 U	430 U
2-Methylphenol	3.4E+07	--	1.5E+04	470 U	380 UJ	520 UJ	4200 U	430 U	430 U
4-Methylphenol	5.1E+06	--	--	470 U	380 U	520 U	4200 U	430 U	430 U
N-Nitrosodiphenylamine	3.9E+05	--	1,000	470 U	380 U	520 U	4200 U	430 U	430 U
N-Nitrosodi-n-propylamine	200	--	0.05	470 U	380 U	520 U	4200 U	430 U	430 U
Naphthalene	1.2E+07	2.4E+05	8.4E+04	470 U	87 J	83 J	4200 U	430 U	430 U
2-Nitroaniline	3.1E+06	--	--	1100 U	930 U	1300 U	10000 U	1000 U	1000 U
3-Nitroaniline	1.4E+05	--	--	1100 U	930 U	1300 U	10000 U	1000 U	1000 U
4-Nitroaniline	1.4E+05	--	--	1100 UJ	930 U	1300 U	10000 UJ	1000 U	1000 U
Nitrobenzene	3.4E+05	1.3E+05	100	470 U	380 U	520 U	4200 U	430 U	430 U

Table 5-47
 Base Neutral/Acid Extractable Compound Concentrations in Subsurface Soil
 SCYI RFI

North East Refinery Area (SWMU 40)
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Sample ID	Soil Ingestion/ Dermal	Inhalation	Migration to Groundwater	40-01(3-3.5)	40-01(11.5-12)	40-02(3.0-3.5)	40-02(14.5-15.0)	40-03(3-3.5)	40-03(12.5-13)
Lab ID	RBSL ¹	RBSL ²	RBSL ³	BQ0855	BQ0854	BQ0821	BQ0819	BQ0857	BQ0858
Sample Date	27-Jun-96	27-Jun-96	27-Jun-96	27-Jun-96	27-Jun-96	25-Jun-96	25-Jun-96	25-Jun-96	25-Jun-96
BNAs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)									
2-Nitrophenol	--	--	--	350 U	470 U	380 U	520 U	4200 U	430 U
4-Nitrophenol	--	--	--	850 UJ	1100 UJ	930 U	1300 U	10000 U	1000 UJ
2,2'-oxybis(1-chloropropane)	4.1E+04	--	--	350 UJ	470 UJ	380 U	520 U	4200 U	430 UJ
Pentachlorophenol	1.0E+04	--	30	850 U	1100 U	930 U	1300 U	10000 U	1000 U
Phenanthrene	1.7E+07	--	4.2E+05	350 U	470 U	83 J	520 U	4200 U	430 U
Phenol	2.1E+08	1.0E+09	1.0E+05	350 U	470 U	70 J	520 U	4200 U	430 U
Pyrene	1.8E+07	5.8E+08	4.2E+06	350 U	470 U	380 UJ	520 U	4200 UJ	430 U
1,2,4-Trichlorobenzene	6.8E+06	3.2E+06	5,000	350 U	470 U	380 U	520 U	4200 U	430 U
2,4,5-Trichlorophenol	6.8E+07	--	2.7E+05	850 U	1100 U	930 U	1300 U	10000 U	1000 U
2,4,6-Trichlorophenol	1.7E+05	3.4E+05	200	350 U	470 U	380 U	520 U	4200 U	430 U

Any values exceeding RBSLs are shown shaded.

U - compound was analyzed for but not detected at the concentration shown

J - estimated value

Notes:

-- not available

1. RBSLs for soil ingestion/dermal contact are the lower of EPA industrial SSLs (EPA, 2002), shown in italics, and EPA Region 3 (Oct 2004) industrial soil ingestion risk-based concentrations (RBCs), shown in standard font, except for benzo(ghi)perylene and phenanthrene, which are derived from TNRCC (March 2004).
2. RBSLs for inhalation of volatiles in outdoor air are from EPA (2002).

Table 5-47
Base Neutral/Acid Extractable Compound Concentrations in Subsurface Soil
SCYI RFI
North East Refinery Area (SWMU 40)
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Sample ID	Soil Ingestion/ Dermal	Inhalation	Migration to Groundwater	40-04(11.5-13)	40-05(11.5-12)	40-06(13.5-14)	40-07(12.5-13.0)	40-08(14.5-15)
Lab ID	RBSL ¹	RBSL ²	RBSL ³	BQ0852	BQ0868	BQ0869	BQ0817	BQ0856
Sample Date	3.7E+07	5.6E+07	5.7E+05	27-Jun-96	27-Jun-96	25-Jun-96	25-Jun-96	26-Jun-96
BNAs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)								
Acenaphthene	--	--	--	460 U	410 U	490 U	2000 U	460 U
Acenaphthylene	1.8E+08	1.0E+09	1.2E+07	460 U	410 U	490 U	2000 U	460 U
Anthracene	2000	--	2,000	460 U	410 U	490 U	2000 U	460 U
Benzo(a)anthracene	2000	2.6E+07	5,000	460 U	410 UJ	490 U	2000 U	460 U
Benzo(k)fluoranthene	2.3E+04	2.6E+08	4.9E+04	460 U	410 U	490 U	2000 U	460 U
Benzo(ghi)perylene	1.7E+07	--	4.6E+07	460 U	410 U	490 U	2000 U	460 U
Benzo(a)pyrene	200	2.6E+06	8,000	460 U	410 U	490 U	2000 U	460 U
bis(2-Chloroethoxy)methane	--	--	--	460 U	410 U	490 U	2000 U	460 U
bis(2-Chloroethyl) ether	2000	400	0.4	460 U	410 U	490 U	2000 U	460 U
bis(2-Ethylhexyl)phthalate	1.4E+05	1.0E+09	3.6E+06	790 UJ	410 U	490 UJ	2000 U	460 U
4-Bromophenyl phenyl ether	--	--	--	460 U	410 U	490 U	2000 U	460 U
Butyl benzyl phthalate	1.4E+08	--	9.3E+05	460 U	410 U	490 U	2000 U	460 U
Carbazole	9.6E+04	9.4E+08	600	460 U	410 U	490 U	2000 U	460 U
4-Chloroaniline	2.7E+06	--	700	460 U	410 U	490 U	2000 U	460 U
p-Chloro-m-cresol	--	--	--	460 U	410 UJ	490 U	2000 U	460 U
2-Chloronaphthalene	8.2E+07	--	--	460 U	410 U	490 U	2000 U	460 U
2-Chlorophenol	3.4E+06	--	4,000	460 U	410 U	490 U	2000 U	460 U
4-Chlorophenyl phenyl ether	--	--	--	460 U	410 U	490 U	2000 U	460 U
Chrysene	2.3E+05	1.0E+09	1.6E+05	460 U	410 U	490 U	2000 U	460 U
Dibenzo(a,h)anthracene	200	--	2,000	460 UJ	410 U	490 UJ	2000 U	460 U
Dibenzofuran	2.0E+06	1.3E+07	3.3E+04	460 U	410 U	490 U	2000 U	460 U
Di-n-butyl phthalate	6.8E+07	1.0E+09	2.3E+06	460 U	410 U	490 U	2000 U	460 U
1,2-Dichlorobenzene	6.2E+07	6.0E+05	1.7E+04	460 U	410 U	490 U	2000 U	460 U
1,3-Dichlorobenzene	3.1E+06	--	--	460 U	410 U	490 U	2000 U	460 U
1,4-Dichlorobenzene	8.0E+04	--	2,000	460 U	410 UJ	490 U	2000 U	460 U
3,3'-Dichlorobenzidine	4,000	--	7	460 UJ	410 U	490 UJ	2000 U	460 U

Table 5-47
Base Neutral/Acid Extractable Compound Concentrations in Subsurface Soil
SCYI RFI
North East Refinery Area (SWMU 40)
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Sample ID	Soil Ingestion/ Dermal	Inhalation	Migration to Groundwater	40-04(11.5-13)	40-05(11.5-12)	40-06(13.5-14)	40-07(12.5-13.0)	40-08(14.5-15)
Lab ID	RBSL ¹	RBSL ²	RBSL ³	BQO852	BQO868	BQO869	BQO817	BQO856
Sample Date	27-Jun-96	27-Jun-96	27-Jun-96	27-Jun-96	27-Jun-96	25-Jun-96	25-Jun-96	26-Jun-96
BNAs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)								
2,4-Dichlorophenol	2.1E+06	--	1,000	460 U	410 U	490 U	2000 U	460 U
Diethyl phthalate	5.5E+08	--	4.7E+05	460 U	410 U	490 U	2000 U	460 U
Dimethyl phthalate	1.0E+10	--	--	460 U	410 U	490 U	2000 U	460 U
2,4-Dimethylphenol	1.4E+07	--	9,000	460 U	410 U	490 U	2000 U	460 U
4,6-Dinitro-o-cresol	1.0E+05	--	--	1100 U	990 U	1200 U	4900 U	1100 U
2,4-Dinitrophenol	1.4E+06	--	200	1100 UJ	990 UJ	1200 UJ	4900 U	1100 UJ
2,4-Dinitrotoluene	2.0E+06	--	0.8	460 U	410 U	490 U	2000 U	460 U
2,6-Dinitrotoluene	1.0E+06	--	0.7	460 U	410 U	490 U	2000 U	460 U
Di-n-octyl phthalate	1.4E+07	--	1.0E+07	460 UJ	410 U	490 UJ	2000 U	460 U
Fluoranthene	2.4E+07	1.0E+09	4.3E+06	460 U	410 U	490 U	2000 U	460 U
Fluorene	2.4E+07	7.4E+07	5.6E+05	460 U	410 U	490 U	4200	460 U
Hexachlorobenzene	1,000	2,000	2,000	460 U	410 U	490 U	2000 U	460 U
Hexachlorobutadiene	2.5E+04	1.3E+04	2,000	460 U	410 U	490 U	2000 U	460 U
Hexachlorocyclopentadiene	4.1E+06	4.1E+04	4.0E+05	460 UJ	410 UJ	490 UJ	2000 U	460 U
Hexachloroethane	1.4E+05	9.2E+04	500	460 U	410 U	490 U	2000 U	460 U
Indeno(1,2,3-c,d)pyrene	2,000	2.6E+07	1.4E+04	460 U	410 U	490 U	2000 U	460 U
Isophorone	2.0E+06	--	500	460 U	410 U	490 U	2000 U	460 U
2-Methylnaphthalene	4.1E+06	--	1.7E+04	460 U	410 U	490 U	2000 U	460 U
2-Methylphenol	3.4E+07	--	1.5E+04	460 U	410 U	490 U	2000 UJ	460 U
4-Methylphenol	5.1E+06	--	--	460 U	410 U	490 U	2000 U	460 U
N-Nitrosodiphenylamine	3.9E+05	--	1,000	460 U	410 U	490 U	2000 U	460 U
N-Nitrosodi-n-propylamine	200	--	0.05	460 U	410 UJ	490 U	2000 U	460 U
Naphthalene	1.2E+07	2.4E+05	8.4E+04	460 U	410 U	490 U	2000 U	460 U
2-Nitroaniline	3.1E+06	--	--	1100 U	990 U	1200 U	4900 U	1100 U
3-Nitroaniline	1.4E+05	--	--	1100 U	990 U	1200 U	4900 U	1100 U
4-Nitroaniline	1.4E+05	--	--	1100 UJ	990 UJ	1200 UJ	4900 U	1100 U
Nitrobenzene	3.4E+05	1.3E+05	100	460 U	410 U	490 U	2000 U	460 U

Table 5-47
Base Neutral/Acid Extractable Compound Concentrations in Subsurface Soil
SCYI RFI
North East Refinery Area (SWMU 40)
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Sample ID	Soil Ingestion/ Dermal	Inhalation RBSL ²	Migration to Groundwater	40-04(11.5-13)	40-05(11.5-12)	40-06(13.5-14)	40-07(12.5-13.0)	40-08(14.5-15)
Lab ID				BQ0852	BQ0868	BQ0869	BQ0817	BQ0856
Sample Date	RBSL ¹		RBSL ³	27-Jun-96	27-Jun-96	25-Jun-96	25-Jun-96	26-Jun-96
BNAs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)								
2-Nitrophenol	--	--	--	460 U	410 U	490 U	2000 U	460 U
4-Nitrophenol	--	--	--	1100 UJ	990 UJ	1200 UJ	4900 U	1100 UJ
2,2'-oxybis(1-chloropropane)	4.1E+04	--	--	460 UJ	410 U	490 UJ	2000 U	460 UJ
Pentachlorophenol	1.0E+04	--	30	1100 U	990 U	1200 U	4900 U	1100 U
Phenanthrene	1.7E+07	--	4.2E+05	460 U	410 U	490 U	8800	460 U
Phenol	2.1E+08	1.0E+09	1.0E+05	460 U	410 U	490 U	2000 U	460 U
Pyrene	1.8E+07	5.8E+08	4.2E+06	460 U	410 U	490 U	480 J	460 U
1,2,4-Trichlorobenzene	6.8E+06	3.2E+06	5,000	460 U	410 U	490 U	2000 U	460 U
2,4,5-Trichlorophenol	6.8E+07	--	2.7E+05	1100 U	990 U	1200 U	4900 U	1100 U
2,4,6-Trichlorophenol	1.7E+05	3.4E+05	200	460 U	410 U	490 U	2000 U	460 U

Any values exceeding RBSLs are shown shaded.

U - compound was analyzed for but not detected at the concentration shown

J - estimated value

Notes:

1. RBSLs for soil ingestion/dermal contact are the lower of EPA industrial SSLs (EPA, 2002), shown in italics, and EPA Region 3 (Oct 2004) industrial soil ingestion risk- (RBCs), shown in standard font, except for benzo(ghi)perylene and phenanthrene, which are derived from TNRCC (March 2004).
2. RBSLs for inhalation of volatiles in outdoor air are from EPA (2002).

-- not available

Table 5-47
 Base Neutral/Acid Extractable Compound Concentrations in Subsurface Soil
 SCYI RFI
 North East Refinery Area (SWMU 40)
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Sample ID	Soil Ingestion/ Lab ID	Inhalation RBSL ²	Migration to Groundwater	40-09(8-8.5)	40-10 (5.5-6.0)
Sample Date	Dermal RBSL ¹	RBSL ²	RBSL ³	BQO863 26-Jun-96	BQO853 27-Jun-96
BNAs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)					
Acenaphthene	3.7E+07	5.6E+07	5.7E+05	420 U	1900 U
Acenaphthylene	--	--	--	420 U	1900 U
Anthracene	1.8E+08	1.0E+09	1.2E+07	420 U	1900 U
Benzo(a)anthracene	2000	--	2,000	420 U	1900 U
Benzo(b)fluoranthene	2000	2.6E+07	5,000	420 UJ	1900 U
Benzo(k)fluoranthene	2.3E+04	2.6E+08	4.9E+04	420 U	1900 U
Benzo(ghi)perylene	1.7E+07	--	4.6E+07	420 U	1900 U
Benzo(a)pyrene	200	2.6E+06	8,000	420 U	1900 U
bis(2-Chloroethoxy)methane	--	--	--	420 U	1900 U
bis(2-Chloroethyl) ether	2000	400	0.4	420 U	1900 U
bis(2-Ethylhexyl)phthalate	1.4E+05	1.0E+09	3.6E+06	420 U	1900 U
4-Bromophenyl phenyl ether	--	--	--	420 U	1900 U
Butyl benzyl phthalate	1.4E+08	--	9.3E+05	420 U	1900 U
Carbazole	9.6E+04	9.4E+08	600	420 U	1900 U
4-Chloroaniline	2.7E+06	--	700	420 U	1900 U
p-Chloro-m-cresol	--	--	--	420 U	1900 U
2-Chloronaphthalene	8.2E+07	--	--	420 U	1900 U
2-Chlorophenol	3.4E+06	--	4,000	420 U	1900 U
4-Chlorophenyl phenyl ether	--	--	--	420 U	1900 U
Chrysene	2.3E+05	1.0E+09	1.6E+05	420 U	1900 U
Dibenzo(a,h)anthracene	200	--	2,000	420 U	1900 U
Dibenzofuran	2.0E+06	1.3E+07	3.3E+04	420 U	1900 U
Di-n-butyl phthalate	6.8E+07	1.0E+09	2.3E+06	420 U	1900 U
1,2-Dichlorobenzene	6.2E+07	6.0E+05	1.7E+04	420 U	1900 U
1,3-Dichlorobenzene	3.1E+06	--	--	420 U	1900 U
1,4-Dichlorobenzene	8.0E+04	--	2,000	420 U	1900 U
3,3'-Dichlorobenzidine	4,000	--	7	420 U	1900 UJ

Table 5-47
Base Neutral/Acid Extractable Compound Concentrations in Subsurface Soil
SCYI RFI
North East Refinery Area (SWMU 40)
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Sample ID Lab ID	Soil Ingestion/ Dermal		Inhalation RBSL ²	Migration to Groundwater		40-09(8-8.5)		40-10 (5.5-6.0)	
	RBSL ¹			RBSL ³		BQ0863	BQ0853	26-Jun-96	27-Jun-96
Sample Date									
BNAs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)									
2,4-Dichlorophenol	2.1E+06	--	--	1,000	420 U	420 U	1900 U	1900 U	1900 U
Diethyl phthalate	5.5E+08	--	--	4.7E+05	420 U	420 U	1900 U	1900 U	1900 U
Dimethyl phthalate	1.0E+10	--	--	--	420 U	420 U	1900 U	1900 U	1900 U
2,4-Dimethylphenol	1.4E+07	--	--	9,000	420 U	420 U	1900 U	1900 U	1900 U
4,6-Dinitro-o-cresol	1.0E+05	--	--	--	1000 U	1000 U	4700 U	4700 U	4700 U
2,4-Dinitrophenol	1.4E+06	--	--	200	1000 UJ	1000 UJ	4700 UJ	4700 UJ	4700 UJ
2,4-Dinitrotoluene	2.0E+06	--	--	0.8	420 U	420 U	1900 U	1900 U	1900 U
2,6-Dinitrotoluene	1.0E+06	--	--	0.7	420 U	420 U	1900 U	1900 U	1900 U
Di-n-octyl phthalate	1.4E+07	--	--	1.0E+07	420 U	420 U	1900 U	1900 U	1900 U
Fluoranthene	2.4E+07	1.0E+09	1.0E+09	4.3E+06	420 U	420 U	1900 U	1900 U	1900 U
Fluorene	2.4E+07	7.4E+07	7.4E+07	5.6E+05	420 U	420 U	1900 U	1900 U	1900 U
Hexachlorobenzene	1,000	2,000	2,000	2,000	420 U	420 U	1900 U	1900 U	1900 U
Hexachlorobutadiene	2.5E+04	1.3E+04	1.3E+04	2,000	420 U	420 U	1900 U	1900 U	1900 U
Hexachlorocyclopentadiene	4.1E+06	4.1E+04	4.1E+04	4.0E+05	420 UJ	420 UJ	1900 UJ	1900 UJ	1900 UJ
Hexachloroethane	1.4E+05	9.2E+04	9.2E+04	500	420 U	420 U	1900 U	1900 U	1900 U
Indeno(1,2,3-c,d)pyrene	2,000	2.6E+07	2.6E+07	1.4E+04	420 U	420 U	1900 U	1900 U	1900 U
Isophorone	2.0E+06	--	--	500	420 U	420 U	1900 U	1900 U	1900 U
2-Methylnaphthalene	4.1E+06	--	--	1.7E+04	250 J	250 J	1900 U	1900 U	1900 U
2-Methylphenol	3.4E+07	--	--	1.5E+04	420 U	420 U	1900 U	1900 U	1900 U
4-Methylphenol	5.1E+06	--	--	--	420 U	420 U	1900 U	1900 U	1900 U
N-Nitrosodiphenylamine	3.9E+05	--	--	1,000	420 U	420 U	1900 U	1900 U	1900 U
N-Nitrosodi-n-propylamine	200	--	--	0.05	420 U	420 U	1900 U	1900 U	1900 U
Naphthalene	1.2E+07	2.4E+05	2.4E+05	8.4E+04	32 J	32 J	1900 U	1900 U	1900 U
2-Nitroaniline	3.1E+06	--	--	--	1000 U	1000 U	4700 U	4700 U	4700 U
3-Nitroaniline	1.4E+05	--	--	--	1000 U	1000 U	4700 U	4700 U	4700 U
4-Nitroaniline	1.4E+05	--	--	--	1000 UJ	1000 UJ	4700 UJ	4700 UJ	4700 UJ
Nitrobenzene	3.4E+05	1.3E+05	1.3E+05	100	420 U	420 U	1900 U	1900 U	1900 U

Table 5-47
Base Neutral/Acid Extractable Compound Concentrations in Subsurface Soil
SCYI RFI
North East Refinery Area (SWMU 40)
 (Page 9 of 9)

Sample ID	Soil Ingestion/ Dermal	Inhalation RBSL ²	Migration to Groundwater	40-09(8-8.5)	40-10 (5.5-6.0)
Lab ID	RBSL ¹		RBSL ³	BQO863	BQO853
Sample Date				26-Jun-96	27-Jun-96
BNAs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)					
2-Nitrophenol	--	--	--	420 U	1900 U
4-Nitrophenol	--	--	--	1000 UJ	4700 UJ
2,2'-oxybis(1-chloropropane)	4.1E+04	--	--	420 U	1900 U
Pentachlorophenol	1.0E+04	--	30	1000 U	4700 U
Phenanthrene	1.7E+07	--	4.2E+05	400 J	9600
Phenol	2.1E+08	1.0E+09	1.0E+05	420 U	1900 U
Pyrene	1.8E+07	5.8E+08	4.2E+06	420 U	1900 U
1,2,4-Trichlorobenzene	6.8E+06	3.2E+06	5,000	420 U	1900 U
2,4,5-Trichlorophenol	6.8E+07	--	2.7E+05	1000 U	4700 U
2,4,6-Trichlorophenol	1.7E+05	3.4E+05	200	420 U	1900 U

Any values exceeding RBSLs are shown shaded.

U - compound was analyzed for but not detected at the concentration shown

J - estimated value

Notes:

1. RBSLs for soil ingestion/dermal contact are the lower of EPA industrial SSLs (EPA, 2002), shown in italics, and EPA Region 3 (Oct 2004) industrial soil ingestion risk-l (RBCs), shown in standard font, except for benzo(ghi)perylene and phenanthrene, which are derived from TNRCC (March 2004).
2. RBSLs for inhalation of volatiles in outdoor air are from EPA (2002).

-- not available

Table 5-48
Metal Concentrations in Surface Soil
 SCYI RFI
Disposal Area in back of HWSA (SWMU 40)
 (Page 1 of 1)

Sample ID	Soil Ingestion/ Inhalation	Migration to Background	40-01(0.5-1.5)	40-02(0.5-1.5)	40-03(1.0-1.5)	40-03(1.5-2)		
Lab ID	Dermal	RBSL ²	Groundwater	Level	BQ0861	BQ0824	BQ0860	BQ0859
Sample Date	RBSL ¹	2,600	RBSL ³	27-Jun-96	25-Jun-96	25-Jun-96	25-Jun-96	26-Jun-96
Metals (Reporting units are in mg/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)								
Antimony	410	--	5	9.2	7 UJ	7.9 U	8.5 UJ	7.5 UJ
Arsenic	1.9	770	29	8.7	0.73 U	2.4 J	1.9 BJ	3.4 J
Barium	7.2E+04	1.0E+06	1,600	183	177	107	138	30.7 B
Beryllium	2,000	2,600	63	0.4	0.22 B	0.44 B	0.33 B	0.15 B
Cadmium	900	3,400	8	0.8	0.38 U	0.43 U	0.46 U	0.41 U
Chromium	3,100	510	38	31	1.5 B	38.2	24	3.5
Cobalt	2.0E+04	1900	1300	17	2.8 B	10.1 B	12.9	3.2 B
Lead	400	--	--	32	12.8	24.3 J	37.8	2.3
Mercury	340	14	2	1.7	0.04 U	0.31	0.78	0.05 U
Nickel	2.0E+04	2.6E+04	130	28	3.3 B	153	233	1.4 B
Selenium	5,100	--	5	2.2	0.75 UJ	0.86 UJ	4.8	0.81 U
Vanadium	1,000	--	6,000	139	20.6	577	466	24.9

Any values exceeding RBSLs are shown shaded.

U - compound was analyzed for but not detected at the listed concentration

J - estimated based on data validation

B - concentration is between the instrument detection limit (IDL) and contract required detection limit (CDRL). Detections may be the result of instrument noise and other lab artifacts, especially near the IDL.

-- not available

Notes:

1. RBSLs for soil ingestion/dermal contact are the lower of EPA industrial SSLs (EPA, 2002), shown in italics, and EPA Region 3 (Oct 2004) industrial soil ingestion risk-based concentrations, shown in standard font.
2. RBSLs for inhalation of particulates or vapor in outdoor air are from EPA (2002).

Table 5-49
Metal Concentrations in Subsurface Soil
SCYI RFI
North East Refinery Area (SWMU 40)
 (Page 1 of 2)

Sample ID	Soil Ingestion/ Inhalation	Migration to Background	40-01(3.0-3.5)	40-01(11.5-12.0)	40-02(3.0-3.5)	40-02(14.5-15.0)	40-03(3.0-3.5)	40-03(12.5-13.0)	40-04(11.5-13.0)		
Lab ID	Dermal	RBSL ²	Groundwater	Level	BQ0855	BQ0821	BQ0819	BQ0857	BQ0858		
Sample Date	RBSL ¹	2,000	RBSL ³	27-Jun-96	27-Jun-96	25-Jun-96	25-Jun-96	25-Jun-96	25-Jun-96		
Metals (Reporting units are in mg/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)											
Antimony	410	--	5	9.2	7.1 U	9.6 U	7.7 U	10.6 U	8.6 U	8.7 U	9.4 U
Arsenic	1.9	770	29	8.7	0.75 UJ	1 UJ	1.9 BJ	1.1 UJ	3.9 J	0.91 UJ	0.99 UJ
Barium	7.2E+04	1.0E+06	1,600	183	136	227	128	249	106	192	309
Beryllium	2,000	2,600	63	0.4	0.23 B	0.66 B	0.36 B	0.61 B	0.46 B	0.54 B	0.54 B
Cadmium	900	3,400	8	0.8	0.38 U	0.52 U	0.42 U	0.57 U	0.46 U	0.47 U	0.51 U
Chromium	3,100	510	38	31	1.9 B	4.8	17.7	6	29	4	5.7
Cobalt	2.0E+04	1900	1300	17	4.4 B	17.1	9.4 B	17	11.4 B	16.8	14.2
Lead	400	--	--	32	12.1 J	5.3 J	29.8 J	5.2 J	91.4 J	2.3 J	5.7 J
Mercury	340	14	2	1.7	0.04 U	0.06 U	0.4	0.06 U	1	0.05 U	0.06 U
Nickel	2.0E+04	2.6E+04	130	28	7.3 B	3 B	106	5.1 B	141	2.9 B	4 B
Selenium	5,100	--	5	2.2	0.77 UJ	1 U	0.84 U	1.1 U	7.6 J	0.94 U	1 UJ
Vanadium	1,000	--	6,000	139	11.9	130	302	142	472	108	111

Any values exceeding RBSLs are shown shaded.

U - compound was analyzed for but not detected at the listed concentration

J - estimated based on data validation

B - concentration is between the instrument detection limit (IDL) and contract required detection limit (CDRL). Detections may be the result of instrument noise and other lab artifacts, especially near the IDL.

-- not available

Notes:

1. RBSLs for soil ingestion/dermal contact are the lower of EPA industrial SSLs (EPA, 2002), shown in italics, and EPA Region 3 (Oct 2004) industrial soil ingestion risk-based concentrations, shown in standard font.
2. RBSLs for inhalation of particulates or vapor in outdoor air are from EPA (2002).
3. RBSLs for migration to groundwater are from EPA (2002) for a DAF of 20.

Table 5-49
Metal Concentrations in Subsurface Soil
 SCYI RFI
 North East Refinery Area (SWMU 40)
 (Page 2 of 2)

Sample ID	Soil Ingestion/ Dermal RBSL ¹	Inhalation RBSL ²	Migration to Groundwater RBSL ³	Level	Background 40-05(11.5-12)	40-06(13.5-14)	40-07(12.5-13.040-08(14.5-15.0	40-09(8.0-8.5)	40-10(5.5-6.0)	
Lab ID	BQ0868	BQ0869	BQ0817	BQ0856	BQ0863	BQ0853	BQ0863	BQ0853	BQ0853	
Sample Date	27-Jun-96	25-Jun-96	25-Jun-96	26-Jun-96	26-Jun-96	27-Jun-96	26-Jun-96	26-Jun-96	27-Jun-96	
Metals (Reporting units are in mg/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)										
Antimony	410	--	5	9.2	8.4 UJ	10 UJ	8.1 U	9.3 U	9.1 UJ	7.8 U
Arsenic	1.9	770	29	8.7	0.88 UJ	1 B	1.5 BJ	0.98 UJ	1.2 BJ	0.82 UJ
Barium	7.2E+04	1.0E+06	1,600	183	98.9	204	60.3	73.1	180	125
Beryllium	2,000	2,600	63	0.4	0.36 B	0.73 B	0.21 B	0.3 B	0.54 B	0.27 B
Cadmium	900	3,400	8	0.8	0.45 U	0.54 U	0.44 U	0.5 U	0.49 U	0.42 U
Chromium	3,100	510	38	31	1.5 B	7.1	2.3 B	1.2 B	11.4	2.1 B
Cobalt	2.0E+04	1900	1300	17	7 B	14.3 B	7.4 B	5.3 B	19.4	10.7 B
Lead	400	--	--	32	1.5 J	5.3	1.1 J	1.2 J	3.5	1.8 J
Mercury	340	14	2	1.7	0.05 U	0.06 U	0.05 U	0.06 U	0.05 U	0.05 U
Nickel	2.0E+04	2.6E+04	130	28	2 B	3.9 B	2.6 B	11.9	6.4 B	2.2 B
Selenium	5,100	--	5	2.2	0.91 U	1.1 UJ	0.87 UJ	1 UJ	0.98 UJ	0.84 U
Vanadium	1,000	--	6,000	139	47	170	60.1	59.6	165	67.7

Any values exceeding RBSLs are shown shaded.

U - compound was analyzed for but not detected at the listed concentration

J - estimated based on data validation

B - concentration is between the instrument detection limit (IDL) and contract required detection limit (CDRL). Detections may be the result of instrument noise and other lab artifacts, especially near the IDL.

-- not available

Notes:

1. RBSLs for soil ingestion/dermal contact are the lower of EPA industrial SSLs (EPA, 2002), shown in italics, and EPA Region 3 (Oct 2004) industrial soil ingestion risk-based concentrations, shown in standard font.
2. RBSLs for inhalation of particulates or vapor in outdoor air are from EPA (2002).
3. RBSLs for migration to groundwater are from EPA (2002) for a DAF of 20.

Table 5-50
 Volatile Organic Compound Concentrations in Groundwater
 SCYI RFI
 North East Refinery Area (SWMU 40)
 (Page 1 of 2)

Well ID	MCL or RBSL ¹	40-08 BRO808 26-Aug-96	40-11 N40627-4 4-Jun-03	40-12 BRO841 19-Sep-96	40-12 N40627-5 4-Jun-03	40-14 BRO840 19-Sep-96	40-14A N36804-5 8-Apr-03	40-15 BRO833 19-Sep-96	40-16 N36804-4 8-Apr-03	40-16 BRO834 19-Sep-96	40-17 BRO842 20-Sep-96
VOCs (Reporting units are in ug/L)											
Acetone	5500	10 U	17	10 UJ	7	10 UJ	5 U	10 U	5 U	10 UJ	10 UJ
Benzene	5	10 U	1 U	10 U	1 U	10 U	1 U	10 U	1 U	10 U	10 U
Bromodichloromethane	80	10 U	1 U	10 U	1 U	10 U	1 U	10 U	1 U	10 U	10 U
Bromoform	80	10 U	1 U	10 U	1 U	10 U	1 U	10 U	1 U	10 U	10 U
Bromomethane	8.5	10 U	1 U	10 U	1 U	10 U	1 U	10 U	1 U	10 U	10 U
2-Butanone	7000	10 U	5 U	10 UJ	5 U	10 UJ	5 U	10 U	5 U	10 UJ	10 UJ
Carbon disulfide	1000	10 U	1 U	10 U	1 U	10 U	8	10 U	6	10 U	10 U
Carbon tetrachloride	5	10 U	1 U	10 U	1 U	10 U	1 U	10 U	1 U	10 U	10 U
Chlorobenzene	100	10 U	1 U	10 U	1 U	10 U	1 U	10 U	1 U	10 U	10 U
Chloroethane	3.6	10 U	1 U	10 U	1 U	10 U	1 U	10 U	1 U	10 U	10 U
Chloroform	80	10 U	1 U	10 U	1 U	10 U	1 U	10 U	1 U	10 U	10 U
Chloromethane	190	10 UJ	1 U	10 U	1 U	10 U	1 U	10 U	1 U	10 U	10 U
Dibromochloromethane	80	10 U	1 U	10 U	1 U	10 U	1 U	10 U	1 U	10 U	10 U
1,1-Dichloroethane	800	10 U	1 U	10 U	1 U	10 U	1 U	10 U	1 U	10 U	10 U
1,2-Dichloroethane	5	10 U	1 U	10 U	1 U	10 U	1 U	10 U	1 U	10 U	10 U
1,1-Dichloroethene	7	10 U	1 U	10 U	1 U	10 U	1 U	10 U	1 U	10 U	10 U
1,2-Dichloroethene (total)	70	10 U	1 U	10 U	1 U	10 U	1 U	10 U	1 U	10 U	10 U
1,2-Dichloropropane	5	10 U	1 U	10 U	1 U	10 U	1 U	10 U	1 U	10 U	10 U
cis-1,3-Dichloropropene	0.44	10 U	1 U	10 U	1 U	10 U	1 U	10 U	1 U	10 U	10 U
trans-1,3-Dichloropropene	0.44	10 U	1 U	10 U	1 U	10 U	1 U	10 U	1 U	10 U	10 U
Ethylbenzene	700	10 U	1 U	10 U	1 U	10 U	1 U	10 U	1 U	10 U	10 U
2-Hexanone	--	10 U	5 U	10 UJ	5 U	10 UJ	5 U	10 U	5 U	10 UJ	10 UJ
Methylene chloride	5	10 U	2 U	10 U	2 U	10 U	2 U	10 U	2 U	10 U	10 U
4-Methyl-2-Pentanone	6300	10 U	5 U	10 U	5 U	10 U	5 U	10 U	5 U	10 U	10 U
Styrene	100	10 U	1 U	10 U	1 U	10 U	1 U	10 U	1 U	10 U	10 U
1,1,2,2-Tetrachloroethane	0.053	10 U	1 U	10 U	1 U	10 U	1 U	10 U	1 U	10 U	10 U
Tetrachloroethene	5	10 U	1 U	10 U	1 U	10 U	1 U	10 U	1 U	10 U	10 U
Toluene	1000	10 U	0.1 J	10 U	0.2 J	10 U	1 U	10 U	0.1 J	10 U	10 U
1,1,1-Trichloroethane	200	10 U	1 U	10 U	1 U	10 U	1 U	10 U	1 U	10 U	10 U
1,1,2-Trichloroethane	5	10 U	1 U	10 U	1 U	10 U	1 U	10 U	1 U	10 U	10 U
Trichloroethene	5	10 U	1 U	10 U	1 U	10 U	1 U	10 U	1 U	10 U	10 U
Vinyl chloride	2	10 U	1 U	10 U	1 U	10 U	1 U	10 U	1 U	10 U	10 U
Xylene (total)	1.0E+04	3 J	0.5 J	10 U	0.8 J	10 U	1 U	10 U	1 U	10 U	10 U

Any results that exceed MCLs or RBSLs are shown bolded and shaded.
 U - compound was analyzed for, but not detected at the concentration shown. J - estimated value. -- not available

Notes:
 1. EPA Maximum Contaminant Levels (MCLs) are shown in bold. For compounds without MCLs, EPA Region 3 risk-based screening levels for tap water (Oct 2004) are shown in italics.
 2. A detailed discussion concerning selection of screening levels is provided in Section 5.1.2 of this report.

Table 5-50
 Volatile Organic Compound Concentrations in Groundwater
 SCYI RFI
 North East Refinery Area (SWMU 40)
 (Page 2 of 2)

Sample ID	MCL or RBSL ¹	40-18 BRO832 19-Sep-96	40-19 BRO831 19-Sep-96	40-20 BRO826 18-Sep-96	40-20 BRO827 18-Sep-96	40-21 N91847-10C 23-Feb-05	40-21 N91847-11C 23-Feb-05
VOCs (Reporting units are in ug/L)							
Acetone	5500	10 UJ	10 U	10 U	10 U	5 U	5 U
Benzene	5	10 U	10 U	10 U	10 U	1 U	1 U
Bromodichloromethane	80	10 U	10 U	10 U	10 U	1 U	1 U
Bromoform	80	10 U	10 U	10 U	10 U	1 U	1 U
Bromomethane	8.5	10 U	10 U	10 U	10 U	1 U	1 U
2-Butanone	7000	10 UJ	10 U	10 U	10 U	5 U	5 U
Carbon disulfide	1000	10 U	10 U	10 U	10 U	5 U	5 U
Carbon tetrachloride	5	10 U	10 U	10 U	10 U	1 U	1 U
Chlorobenzene	100	10 U	10 U	10 U	10 U	1 U	1 U
Chloroethane	3.6	10 U	10 U	10 U	10 U	1 U	1 U
Chloroform	80	10 U	10 U	10 U	10 U	1 U	1 U
Chloromethane	190	10 U	10 U	10 UJ	10 UJ	1 U	1 U
Dibromochloromethane	80	10 U	10 U	10 U	10 U	1 U	1 U
1,1-Dichloroethane	800	10 U	10 U	10 U	10 U	1 U	1 U
1,2-Dichloroethane	5	10 U	10 U	10 U	10 U	1 U	1 U
1,1-Dichloroethene	7	10 U	10 U	10 U	10 U	1 U	1 U
1,2-Dichloroethene (total)	70	10 U	10 U	10 U	10 U	1 U	1 U
1,2-Dichloropropane	5	10 U	10 U	10 U	10 U	1 U	1 U
cis-1,3-Dichloropropene	0.44	10 U	10 U	10 U	10 U	1 U	1 U
trans-1,3-Dichloropropene	0.44	10 U	10 U	10 U	10 U	1 U	1 U
Ethylbenzene	700	10 U	10 U	10 U	10 U	1 U	1 U
2-Hexanone	--	10 UJ	10 U	10 U	10 U	5 U	5 U
Methylene chloride	5	10 U	10 U	10 U	10 U	2 U	2 U
4-Methyl-2-Pentanone	6300	10 U	10 U	10 U	10 U	5 U	5 U
Styrene	100	10 U	10 U	10 U	10 U	1 U	1 U
1,1,2,2-Tetrachloroethane	0.053	10 U	10 U	10 U	10 U	1 U	1 U
Tetrachloroethene	5	10 U	10 U	10 U	10 U	1 U	1 U
Toluene	1000	10 U	10 U	10 U	10 U	1 U	1 U
1,1,1-Trichloroethane	200	10 U	10 U	10 U	10 U	1 U	1 U
1,1,2-Trichloroethane	5	10 U	10 U	10 U	10 U	1 U	1 U
Trichloroethene	5	10 U	10 U	10 U	10 U	1 U	1 U
Vinyl chloride	2	10 U	10 U	10 U	10 U	1 U	1 U
Xylene (total)	1.0E+04	10 U	10 U	10 U	10 U	1 U	1 U

Any results that exceed MCLs or RBSLs are shown bolded and shaded.
 U - compound was analyzed for, but not detected at the concentration shown. J - estimated value. -- not available

Notes:

- EPA Maximum Contaminant Levels (MCLs) are shown in bold. For compounds without MCLs, EPA Region 3 risk-based screening levels for tap water (Oct 2004) are shown in italics.
- A detailed discussion concerning selection of screening levels is provided in Section 5.1.2 of this report.

Table 5-51
Base Neutral/Acid Compound Concentrations in Groundwater
SCYI RFI
North East Refinery Area (SWMU 40)
(Page 1 of 3)

Well ID	MCL	40-08	40-11	40-21	40-21
Lab ID	or RBSL ¹	BRO808	N40627-4C	N91847-10C	N91847-11C
Sample Date		26-Aug-96	4-Jun-03	23-Feb-05	23-Feb-05
(duplicate)					
BNAs (Reporting units are in ug/L)					
Acenaphthene	370	10 U	0.57 J	1.3 J	0.75 J
Acenaphthylene	1,500	10 U	2 U	2.1 U	2.1 U
Anthracene	1,800	10 U	2 U	2.1 U	2.1 U
Benzo(a)anthracene	0.092	10 U	2 U	2.1 U	2.1 U
Benzo(b)fluoranthene	0.092	10 UJ	2 U	2.1 U	2.1 U
Benzo(k)fluoranthene	0.92	10 UJ	2 U	2.1 U	2.1 U
Benzo(ghi)perylene	73	10 UJ	2 U	2.1 U	2.1 U
Benzo(a)pyrene	0.2	10 UJ	2 U	2.1 U	2.1 U
bis(2-Chloroethoxy)methane	--	10 U	2 U	2.1 U	2.1 U
bis(2-Chloroethyl) ether	0.0096	10 U	2 U	2.1 U	2.1 U
bis(2-Ethylhexyl)phthalate	6	10 U	2 U	2.1 U	2.1 U
4-Bromophenyl phenyl ether	--	10 U	2 U	2.1 U	2.1 U
Butyl benzyl phthalate	7,300	10 U	2 U	2.1 U	2.1 U
Carbazole	3.3	10 U	2 U	2.1 U	2.1 U
4-Chloroaniline	150	10 U	5 U	5.1 U	5.1 U
p-Chloro-m-cresol	--	10 U	5 U	5.1 U	5.1 U
2-Chloronaphthalene	490	10 U	5 U	5.1 U	5.1 U
2-Chlorophenol	30	10 U	5 U	5.1 U	5.1 U
4-Chlorophenyl phenyl ether	--	10 U	2 U	2.1 U	2.1 U
Chrysene	9.2	10 U	2 U	2.1 U	2.1 U
Dibenzo(a,h)anthracene	0.0092	10 UJ	2 U	2.1 U	2.1 U
Dibenzofuran	12	10 U	5 U	5.1 U	5.1 U
Di-n-butyl phthalate	3,700	10 U	2 U	2.1 U	2.1 U
1,2-Dichlorobenzene	600	10 U	2 U	2.1 U	2.1 U
1,3-Dichlorobenzene	18	10 U	2 U	2.1 U	2.1 U
1,4-Dichlorobenzene	75	10 U	2 U	2.1 U	2.1 U
3,3'-Dichlorobenzidine	0.15	10 UJ	5 U	5.1 U	5.1 U

Table 5-51
Base Neutral/Acid Compound Concentrations in Groundwater
SCYI RFI
North East Refinery Area (SWMU 40)
(Page 2 of 3)

Well ID	MCL	40-08	40-11	40-21	40-21
Lab ID	or RBSL ¹	BRO808	N40627-4C	N91847-10C	N91847-11C
Sample Date		26-Aug-96	4-Jun-03	23-Feb-05	23-Feb-05
(duplicate)					
BNAs (Reporting units are in ug/L)					
2,4-Dichlorophenol	110	10 U	5 U	5.1 U	5.1 U
Diethyl phthalate	2.9E+04	10 U	2 U	2.1 U	2.1 U
Dimethyl phthalate	3.7E+05	10 U	2 U	2.1 U	2.1 U
2,4-Dimethylphenol	730	10 U	5 U	5.1 U	5.1 U
4,6-Dinitro-o-cresol	3.7	26 U	20 U	21 U	21 U
2,4-Dinitrophenol	73	26 UJ	20 U	21 U	21 U
2,4-Dinitrotoluene	73	10 U	2 U	2.1 U	2.1 U
2,6-Dinitrotoluene	37	10 U	2 U	2.1 U	2.1 U
Di-n-octyl phthalate	1,500	10 UJ	2 U	2.1 U	2.1 U
Fluoranthene	1,500	10 U	2 U	2.1 U	2.1 U
Fluorene	240	10 U	2.5	5.3	3.5
Hexachlorobenzene	1	10 U	2 U	2.1 U	2.1 U
Hexachlorobutadiene	0.86	10 U	2 U	2.1 U	2.1 U
Hexachlorocyclopentadiene	50	10 U	20 U	21 U	21 U
Hexachloroethane	4.8	10 U	5 U	5.1 U	5.1 U
Indeno(1,2,3-c,d)pyrene	0.092	10 UJ	2 U	2.1 U	2.1 U
Isophorone	70	10 U	2 U	2.1 U	2.1 U
2-Methylnaphthalene	24	10 U	2 U	36.9	30
2-Methylphenol	1,800	10 U	5 U	5.1 U	5.1 U
4-Methylphenol	180	10 U	5 U	5.1 U	5.1 U
N-Nitrosodiphenylamine	14	10 U	5 U	5.1 U	5.1 U
N-Nitrosodi-n-propylamine	0.0096	10 U	2 U	2.1 U	2.1 U
Naphthalene	6.5	10 U	2 U	2.1 U	2.1 U
2-Nitroaniline	110	26 U	5 U	5.1 U	5.1 U
3-Nitroaniline	3.3	26 U	5 U	5.1 U	5.1 U
4-Nitroaniline	3.3	26 UJ	5 U	5.1 U	5.1 U
Nitrobenzene	3.5	10 U	2 U	2.1 U	2.1 U

Table 5-51
Base Neutral/Acid Compound Concentrations in Groundwater
SCYI RFI
North East Refinery Area (SWMU 40)
 (Page 3 of 3)

Well ID	MCL or RBSL ¹	40-08	40-11	40-21	40-21
Lab ID		BRO808	N40627-4C	N91847-10C	N91847-11C
Sample Date		26-Aug-96	4-Jun-03	23-Feb-05	23-Feb-05 (duplicate)
BNAs (Reporting units are in ug/L)					
2-Nitrophenol	--	10 U	5 U	5.1 U	5.1 U
4-Nitrophenol	--	26 U	20 U	21 U	21 U
2,2'-oxybis(1-chloropropane)	--	10 UJ	2 U	2.1 U	2.1 U
Pentachlorophenol	1	26 U	20 U	21 U	21 U
Phenanthrene	73	10 U	2 U	7.3	4.7
Phenol	<i>1.1E+04</i>	10 U	5 U	5.1 U	5.1 U
Pyrene	180	10 U	2 U	2.1 U	2.1 U
1,2,4-Trichlorobenzene	70	10 U	2 U	2.1 U	2.1 U
2,4,5-Trichlorophenol	3,700	26 U	5 U	5.1 U	5.1 U
2,4,6-Trichlorophenol	6.1	10 U	5 U	5.1 U	5.1 U

Any results that exceed MCLs or RBSLs are shown bolded and shaded.

U - compound was analyzed for, but not detected at the concentration shown.

J - estimated value.

-- not available

Notes:

1. EPA Maximum Contaminant Levels (MCLs) are shown in bold. For compounds without MCLs, EPA Region 3 risk-based screening levels for tap water (Oct 2004) are shown in italics. RBSLs for acenaphthylene, benzo(ghi)perylene, and phenanthrene are from TNRCC (2004).
2. A detailed discussion concerning selection of screening levels is provided in Section 5.1.2 of this report.

Table 5-52
Metal Concentrations in Groundwater
SCYI RFI
North East Refinery Area (SWMU 40)
 (Page 1 of 2)

Well ID	MCL or RBSL ¹	40-08	40-08	40-08	40-08	40-11	40-11	40-11	40-12	40-12
Lab ID		BRO808	BTW406	N36804-2	N36804-2A	N40627-4	N40627-4A	N40627-5	N40627-5A	
Sample Date		26-Aug-96	31-Jan-97	8-Apr-03	8-Apr-03	4-Jun-03	4-Jun-03	4-Jun-03	4-Jun-03	4-Jun-03
		Dissolved	Dissolved	Total	Dissolved	Total	Dissolved	Total	Total	Dissolved
Antimony	6	57.3 B	45.8 U	2.3 U	2.3 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U
Arsenic	10	5.2 U	---	---	---	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U
Barium	2000	180 B	---	---	---	269	262	547	494	494
Beryllium	4	0.2 U	---	---	---	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Cadmium	5	3.3 BJ	---	---	---	1.3 B	0.98 B	1.4 B	1.1 B	1.1 B
Chromium	100	4.9 B	---	---	---	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U
Cobalt	730	34.3 B	---	---	---	0.83 B	1.2 B	0.89 B	1.2 B	1.2 B
Lead	15	2.7 UJ	---	---	---	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U
Mercury	2	0.1 U	---	---	---	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U
Nickel	730	44.6	---	---	---	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Selenium	50	4.7 UJ	---	---	---	3.1 U	3.1 U	3.1 U	3.1 U	3.1 U
Vanadium	37	2.8 U	---	---	---	2.1 B	1.4 B	0.90 U	0.90 U	0.90 U

Any results that exceed MCLs or RBSLs are shown bolded and shaded.

U - compound was analyzed for but not detected at the concentration shown

J - estimated based on data validation

B - concentration is between the instrument detection limit (IDL) and contract required detection limit (CRDL). Detections may be the result of instrument noise and other lab artifacts, especially near the IDL.

R - rejected during data validation.

--- not sampled

Notes:

1. EPA Maximum Contaminant Levels (MCLs) are shown in bold. For compounds without MCLs, EPA Region 3 risk-based screening levels (RBCs tap water (Oct 2004) are shown in italics.
2. EPA Region 3 tap water RBCs are less than MCLs for all detected constituents, except for arsenic, which has a Region 3 RBC of 0.045 ug/L.
3. A detailed discussion concerning selection of screening levels is provided in Section 5.1.2 of this report.

Table 5-52
Metal Concentrations in Groundwater
SCYI RFI
North East Refinery Area (SWMU 40)
 (Page 2 of 2)

Well ID	MCL	40-21	40-21	40-21	40-21
Lab ID	or RBSL ¹	N91847-10CA	N91847-10CFA	N91847-11CA	N91847-11CFA
Sample Date		23-Feb-05	23-Feb-05	23-Feb-05	23-Feb-05
	Total	Dissolved	Total	Dissolved	(duplicate)
Metals (Reporting units are in ug/L)					
Antimony	6	3.3 U	3.3 U	3.3 U	3.3 U
Arsenic	10	7.1 B	6.7 B	10.2 R	18.8 R
Barium	2000	380	435	387	432
Beryllium	4	0.20 U	0.20 U	0.20 U	0.20 U
Cadmium	5	0.30 U	0.30 U	0.30 U	0.30 U
Chromium	100	1.0 U	1.0 U	1.4 B	1.2 B
Cobalt	730	0.80 U	1.2 B	1.2 B	1.0 B
Lead	15	1.9 U	1.9 U	1.9 U	1.9 U
Mercury	2	0.10 U	0.10 BJ	0.23	0.10 UJ
Nickel	730	1.5 B	1.2 B	1.8 B	1.1 U
Selenium	50	7.4 J	4.8 BJ	10.3 R	16.5 R
Vanadium	37	7.2 B	3.9 B	7.5 B	3.5 B

Any results that exceed MCLs or RBSLs are shown bolded and shaded.

U - compound was analyzed for but not detected at the concentration shown

J - estimated based on data validation

B - concentration is between the instrument detection limit (IDL) and contract required detection limit (CRDL). Detections may be the result of instrument noise and other lab artifacts, especially near the IDL.

R - rejected during data validation.

--- not sampled

Notes:

1. EPA Maximum Contaminant Levels (MCLs) are shown in bold. For compounds without MCLs, EPA Region 3 risk-based screening levels (RBCs) for tap water (Oct 2004) are shown in italics.
2. EPA Region 3 tap water RBCs are less than MCLs for all detected constituents, except for arsenic, which has a Region 3 RBC of 0.045 ug/L.
3. A detailed discussion concerning selection of screening levels is provided in Section 5.1.2 of this report.

Table 5-53
Immunoassay Field Screening Results
SCYI RFI
North East Refinery Area (SWMU 40)
 (Page 1 of 1)

Sample Location	Depth (ft)			BTEX			PAH		
	3.0-3.5	6.0-8.0	8.0-10.0	3.0-3.5	6.0-8.0	8.0-10.0	3.0-3.5	6.0-8.0	8.0-10.0
40-03	ND								
40-14A		6					> 25	ND	
40-14B						ND			ND

Notes:

1. All immunoassay concentrations are in ppm.
2. ND means non-detect. The detection limit was 2.5 ppm for BTEX and 0.6 ppm for PAHs.
3. A blank box denotes not a sampled depth.
4. Bolded boxes indicate concentrations above site screening levels of 2.5 ppm for BTEX and 5 ppm for PAHs. Concentrations above site screening levels may also be due to cross-reactivity to non-target constituents.

Table 5-54
Summary of Free Product Apparent Thickness
SCYI RFI
North East Refinery Area (SWMU 40)
 (Page 1 of 1)

Thickness measurements are in feet

Well		40-08	40-09	40-10	40-11	40-12	40-13	40-14	40-15	40-16	40-17	40-18	40-19	40-20	MW-RA5
Date	1-Jul-96	--	sheen	0.06	--	sheen	sheen	--	sheen	--	--	sheen	--	--	--
	1-Sep-96	none	0.77	0.35	0.04	sheen	none	none	sheen	sheen	none	sheen	none	none	--
	20-Sep-96	none	0.15	0.83	0.01	sheen	none	none	sheen	sheen	none	sheen	none	none	--
	28-Jan-97	none	1.57	0.87	<0.01	none	none	none	<0.01	none	none	0.02	none	none	<0.01

-- not available

Table 5-55
Volatile Organic Compound Concentrations in Sediment
SCYI RFI
Lajas Creek Sediment
 (Page 1 of 1)

Sample ID	Screening Level	LC-1	LC-1	LC-2
Lab ID		N91847-6B	N91847-7B	N91847-8B
Sample Date		23-Feb-05	23-Feb-05	23-Feb-05
(duplicate)				
VOCs (Reporting units are in ug/kg)				
Acetone	9.9	19.9	14.5 J	13 U
Benzene	142	1.4 U	1.6 U	1.3 U
Bromodichloromethane	--	6.9 U	7.8 U	6.6 U
Bromoform	492	6.9 U	7.8 U	6.6 U
Bromomethane	1.37	6.9 U	7.8 U	6.6 U
2-Butanone	42.4	14 U	16 U	13 U
Carbon disulfide	23.9	6.9 U	7.8 U	6.6 U
Carbon tetrachloride	1450	6.9 U	7.8 U	6.6 U
Chlorobenzene	291	6.9 U	7.8 U	6.6 U
Chloroethane	--	6.9 U	7.8 U	6.6 U
Chloroform	121	6.9 U	7.8 U	6.6 U
Chloromethane	--	6.9 U	7.8 U	6.6 U
Dibromochloromethane	--	6.9 U	7.8 U	6.6 U
1,1-Dichloroethane	0.575	6.9 U	7.8 U	6.6 U
1,2-Dichloroethane	260	6.9 U	7.8 U	6.6 U
1,1-Dichloroethene	19.4	6.9 U	7.8 U	6.6 U
1,2-Dichloroethene (total)	654	6.9 U	7.8 U	6.6 U
1,2-Dichloropropane	333	6.9 U	7.8 U	6.6 U
cis-1,3-Dichloropropene	--	6.9 U	7.8 U	6.6 U
trans-1,3-Dichloropropene	--	6.9 U	7.8 U	6.6 U
Ethylbenzene	175	1.4 U	1.6 U	1.3 U
2-Hexanone	58.2	6.9 U	7.8 U	6.6 U
4-Methyl-2-Pentanone	25.1	6.9 U	7.8 U	6.6 U
Methylene chloride	159	6.9 U	7.8 U	6.6 U
Styrene	254	6.9 U	7.8 U	6.6 U
1,1,2,2-Tetrachloroethane	850	6.9 U	7.8 U	6.6 U
Tetrachloroethene	990	6.9 U	7.8 U	6.6 U
Toluene	1220	1.4 U	1.6 U	1.3 U
1,1,1-Trichloroethane	213	6.9 U	7.8 U	6.6 U
1,1,2-Trichloroethane	518	6.9 U	7.8 U	6.6 U
Trichloroethene	112	6.9 U	7.8 U	6.6 U
Vinyl chloride	202	6.9 U	7.8 U	6.6 U
Xylene (total)	433	2.8 U	3.1 U	2.6 U

U - compound was analyzed for, but not detected at the concentration shown.

J - estimated value.

-- not available

Notes:

- The Screening Levels are based on ecological screening levels for sediment from the US EPA Region 5 RCRA Corrective Action Program (August 2003)

Table 5-56
 Polycyclic Aromatic Hydrocarbon Concentrations in Sediment
 SCYI RFI
 Lajas Creek Sediment
 (Page 1 of 1)

Sample ID	Screening Level ¹	LC-1	LC-1	LC-2
Lab ID	N91847-6BA	N91847-7BA	N91847-8BA	
Sample Date	23-Feb-05	23-Feb-05	23-Feb-05	
(duplicate)				
VOCs (Reporting units are in ug/kg)				
Acenaphthene	6.71	8.0 U	8.3 U	7.9 U
Acenaphthylene	5.87	8.0 U	8.3 U	7.9 U
Anthracene	57.2	8.0 U	8.3 U	7.9 U
Benzo (a) anthracene	108	8.0 U	8.3 U	7.9 U
Benzo (a) pyrene	150	8.0 U	8.3 U	7.9 U
Benzo (b) fluoranthene	1.04E+04	8.0 U	8.3 U	7.9 U
Benzo (g,h,i) perylene	170	8.0 U	8.3 U	7.9 U
Benzo (k) fluoranthene	240	8.0 U	8.3 U	7.9 U
Chrysene	166	8.0 U	8.3 U	7.9 U
Dibenzo (a,h) anthracene	33	8.0 U	8.3 U	7.9 U
Fluoranthene	423	8.0 U	8.3 U	7.9 U
Fluorene	77.4	8.0 U	8.3 U	7.9 U
Indeno(1,2,3-cd)pyrene	200	8.0 U	8.3 U	7.9 U
2-Methylnaphthalene	20.2	8.0 U	8.3 U	7.9 U
Naphthalene	176	8.0 U	8.3 U	7.9 U
Phenanthrene	204	8.0 U	8.3 U	7.9 U
Pyrene	195	8.0 U	8.3 U	7.9 U

U - compound was analyzed for, but not detected at the concentration shown.

Notes:

- The Screening Levels are based on ecological screening levels for sediment from the US EPA Region 5 RCRA Corrective Action Program (August 2003)

Table 5-57
Volatile Organic Compound Concentrations in Surface Water
 SCYI RFI
 Lajas Creek
 (Page 1 of 1)

Sample ID	EPA Region 5 Freshwater Screening Levels	EPA Ambient Water Quality Criteria ²	Puerto Rico Water Quality Standards ³	LC-1 N91847-3A 23-Feb-05	LC-1 N91847-4A 23-Feb-05	LC-2 N91847-5A 23-Feb-05
VOCs (Reporting units are in ug/L)						
Acetone	1700	--		10 U	10 U	10 U
Benzene	114	--	12	1.0 U	1.0 U	1.0 U
Bromodichloromethane	--	--	5.6	1.0 U	1.0 U	1.0 U
Bromoform	230	--	43	4.0 U	4.0 U	4.0 U
Bromomethane	16	--	48	2.0 U	2.0 U	2.0 U
2-Butanone	2200	--		10 U	10 U	10 U
Carbon disulfide	15	--		2.0 U	2.0 U	2.0 U
Carbon tetrachloride	240	--	2.5	1.0 U	1.0 U	1.0 U
Chlorobenzene	47	--	680	1.0 U	1.0 U	1.0 U
Chloroethane	--	--		1.0 U	1.0 U	1.0 U
Chloroform	140	--	57	1.0 U	1.0 U	1.0 U
Chloromethane	--	--		1.0 U	1.0 U	1.0 U
Dibromochloromethane	--	--	4.1	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	47	--		1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	910	--	3.8	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	65	--	0.57	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	970	--		1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	360	--	5.2	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	--	--		1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	--	--		1.0 U	1.0 U	1.0 U
Ethylbenzene	14	--	3100	1.0 U	1.0 U	1.0 U
2-Hexanone	99	--		1.0 U	1.0 U	1.0 U
4-Methyl-2-Pentanone	170	--		5.0 U	5.0 U	5.0 U
Methylene chloride	940	--	470	5.0 U	5.0 U	5.0 U
Styrene	32	--		2.0 U	2.0 U	2.0 U
1,1,2,2-Tetrachloroethane	--	--	1.7	5.0 U	5.0 U	5.0 U
Tetrachloroethene	45	--	8	1.0 U	1.0 U	1.0 U
Toluene	253	--	6800	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	76	--	200	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	500	--	6	1.0 U	1.0 U	1.0 U
Trichloroethene	47	--	27	1.0 U	1.0 U	1.0 U
Vinyl chloride	930	--	2	1.0 U	1.0 U	1.0 U
Xylene (total)	27	--		1.0 U	1.0 U	1.0 U
U - compound was analyzed for but not detected at the concentration shown						

Notes:

- From EPA, Region 5 (EPA, 2003a).
 - From EPA ambient water quality standards for protection of aquatic life in freshwater for continuous exposure (EPA, 2002b).
 - From Puerto Rico Water Quality Standards (PREQB, 2003) for protection of human health in Class SD waters.
- indicates standard not available

Table 5-58
 Base Neutral/Acid Extractable Compound Concentrations in Surface Water
 SCYI RFI
 Lajas Creek
 (Page 1 of 3)

Sample ID	EPA Region 5 Freshwater	EPA Ambient Water Quality	Puerto Rico Water Quality	LC-1 N91847-3A	LC-1 N91847-4A	LC-2 N91847-5A
Sample Date	Screening Levels ¹	Criteria ²	Standards ³	23-Feb-05	23-Feb-05 (duplicate)	23-Feb-05
BNAs (Reporting units are in ug/L)						
Acenaphthene	38	--	1200	2.1 U	2.1 U	2.1 U
Acenaphthylene	4840	--		2.1 U	2.1 U	2.1 U
Anthracene	0.035	--	9600	2.1 U	2.1 U	2.1 U
Benzo(a)anthracene	0.025	--	0.044	2.1 U	2.1 U	2.1 U
Benzo(b)fluoranthene	9.07	--	0.044	2.1 U	2.1 U	2.1 U
Benzo(k)fluoranthene	--	--	0.044	2.1 U	2.1 U	2.1 U
Benzo(ghi)perylene	7.64	--		2.1 U	2.1 U	2.1 U
Benzo(a)pyrene	0.014	--	0.044	2.1 U	2.1 U	2.1 U
bis(2-Chloroethoxy)methane	--	--		2.1 U	2.1 U	2.1 U
bis(2-Chloroethyl) ether	19000	--	0.31	2.1 U	2.1 U	2.1 U
bis(2-Ethylhexyl)phthalate	0.3	--	18	2.1 U	2.1 U	2.1 U
4-Bromophenyl phenyl ether	1.5	--		2.1 U	2.1 U	2.1 U
Butyl benzyl phthalate	23	--	3000	2.1 U	2.1 U	2.1 U
Carbazole		--		2.1 U	2.1 U	2.1 U
4-Chloroaniline	232	--		5.1 U	5.3 U	5.3 U
p-Chloro-m-cresol	34.8	--		2.1 U	2.1 U	2.1 U
2-Chloronaphthalene	0.396	--	1700	5.1 U	5.3 U	5.3 U
2-Chlorophenol	24	--		2.1 U	2.1 U	2.1 U
4-Chlorophenyl phenyl ether		--		2.1 U	2.1 U	2.1 U
Chrysene	--	--	0.044	2.1 U	2.1 U	2.1 U
Dibenzo(a,h)anthracene	--	--	0.044	2.1 U	2.1 U	2.1 U
Dibenzofuran	4	--		5.1 U	5.3 U	5.3 U
Di-n-butyl phthalate	9.7	--	2700	2.1 U	2.1 U	2.1 U
1,2-Dichlorobenzene	14	--	2700	2.1 U	2.1 U	2.1 U
1,3-Dichlorobenzene	38	--	400	2.1 U	2.1 U	2.1 U
1,4-Dichlorobenzene	9.4	--	400	2.1 U	2.1 U	2.1 U
3,3'-Dichlorobenzidine	4.5	--	0.4	5.1 U	5.3 U	5.3 U

Table 5-58
Base Neutral/Acid Extractable Compound Concentrations in Surface Water

SCYI RFI
Lajas Creek
(Page 2 of 3)

Sample ID	EPA Region 5 Freshwater	EPA Ambient Water Quality	Puerto Rico Water Quality	LC-1 N91847-3A	LC-1 N91847-4A	LC-2 N91847-5A
Sample Date	Screening Levels ¹	Criteria ²	Standards ³	23-Feb-05	23-Feb-05	23-Feb-05
BNAs (Reporting units are in ug/L)						
2,4-Dichlorophenol	11	--	93	2.1 U	2.1 U	2.1 U
Diethyl phthalate	110		23000	2.1 U	2.1 U	2.1 U
Dimethyl phthalate	--		313000	2.1 U	2.1 U	2.1 U
2,4-Dimethylphenol	100	--	540	2.1 U	2.1 U	2.1 U
4,6-Dinitro-o-cresol	23		13.4	2.1 U	2.1 U	2.1 U
2,4-Dinitrophenol	19		70	2.1 U	2.1 U	2.1 U
2,4-Dinitrotoluene	44	--	0.11	2.1 U	2.1 U	2.1 U
2,6-Dinitrotoluene	81			2.1 U	2.1 U	2.1 U
Di-n-octyl phthalate	30	--		2.1 U	2.1 U	2.1 U
Fluoranthene	1.9		300	2.1 U	2.1 U	2.1 U
Fluorene	19		1300	2.1 U	2.1 U	2.1 U
Hexachlorobenzene	0.0003		0.0075	2.1 U	2.1 U	2.1 U
Hexachlorobutadiene	0.053		4.4	2.1 U	2.1 U	2.1 U
Hexachlorocyclopentadiene	77		240	21 U	21 U	21 U
Hexachloroethane	8		19	5.1 U	5.3 U	5.3 U
Indeno(1,2,3-c,d)pyrene	4.31		0.044	2.1 U	2.1 U	2.1 U
Isophorone	920		360	2.1 U	2.1 U	2.1 U
2-Methylnaphthalene	330			2.1 U	2.1 U	2.1 U
2-Methylphenol	67			2.1 U	2.1 U	2.1 U
4-Methylphenol	25			2.1 U	2.1 U	2.1 U
N-Nitrosodiphenylamine	--		50	5.1 U	5.3 U	5.3 U
N-Nitrosodi-n-propylamine	--		0.05	2.1 U	2.1 U	2.1 U
Naphthalene	13	--		2.1 U	2.1 U	2.1 U
2-Nitroaniline				5.1 U	5.3 U	5.3 U
3-Nitroaniline				5.1 U	5.3 U	5.3 U
4-Nitroaniline				5.1 U	5.3 U	5.3 U
Nitrobenzene	220		17	2.1 U	2.1 U	2.1 U

Table 5-58
 Base Neutral/Acid Extractable Compound Concentrations in Surface Water
 SCYI RFI
 Lajas Creek
 (Page 3 of 3)

Sample ID	EPA Region 5 Freshwater	EPA Ambient Water Quality	Puerto Rico Water Quality	LC-1 N91847-3A	LC-1 23-Feb-05	LC-1 N91847-4A	LC-2 N91847-5A	LC-2 23-Feb-05
Sample Date	Screening Levels ¹	Criteria ²	Standards ³	(duplicate)				
BNAs (Reporting units are in ug/L)								
Phenanthrene	3.6	--		2.1 U				
Phenol	180	--	21000	2.1 U				
Pyrene	0.3	--	960	2.1 U				
1,2,4-Trichlorobenzene	30		260	2.1 U				

U - compound was analyzed for but not detected at the concentration shown

Notes:

1. From EPA, Region 5 (EPA, 2003a).
 2. From EPA ambient water quality standards for protection of aquatic life in freshwater for continuous exposure (EPA, 2002b).
 3. From Puerto Rico Water Quality Standards (PREQB, 2003) for protection of human health in Class SD waters.
- indicates standard not available

Table 5-59
 Volatile Organic Compound Concentrations in Surface Soil
 SCYI RFI
 West API Separator (SWMU 2)
 (Page 1 of 1)

Sample ID	Soil Ingestion/ Dermal RBSL ¹	Inhalation RBSL ²	Migration to Groundwater RBSL ³	2-02(1.5-2.0) BQV521 12-Jul-96	02-03(1.5-2) BQV541 23-Jul-96	2-05(1.5-2) BQV525 12-Jul-96
VOCs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)						
Acetone	1.1E+08	5.8E+07	1.6E+04	11 U	12 UJ	1300 DJ
Benzene	5.2E+04	800	30	11 U	12 UJ	29 U
Bromodichloromethane	4.6E+04	--	600	11 U	12 UJ	29 U
Bromoform	3.6E+05	8.8E+04	800	11 U	12 UJ	29 U
Bromomethane	1.4E+06	1.3E+04	200	11 U	12 UJ	29 U
2-Butanone	6.1E+08	1.4E+08	2.9E+04	11 UJ	12 UJ	29 U
Carbon disulfide	1.0E+08	7.2E+05	3.2E+04	11 U	12 UJ	29 U
Carbon tetrachloride	2.2E+04	300	70	11 U	12 UJ	29 U
Chlorobenzene	2.0E+07	5.4E+05	1000	11 U	12 UJ	29 U
Chloroethane	3.4E+04	--	400	11 U	12 UJ	29 UJ
Chloroform	9.9E+05	--	6.00E+02	11 U	12 UJ	29 U
Chloromethane	1.0E+07	300	600	11 U	12 UJ	29 U
Dibromochloromethane	--	--	--	11 U	12 UJ	29 U
1,1-Dichloroethane	1.0E+08	1.7E+06	2.3E+04	11 U	12 UJ	29 U
1,2-Dichloroethane	3.1E+04	600	20	11 U	12 UJ	29 U
1,1-Dichloroethene	5.1E+07	4.1E+05	60	11 U	12 UJ	29 U
1,2-Dichloroethene (total)	9.2E+06	1.5E+05	400	11 U	12 UJ	29 U
1,2-Dichloropropane	4.2E+04	2.1E+04	30	11 U	12 UJ	29 U
cis-1,3-Dichloropropene	2.9E+04	--	4	11 U	12 UJ	29 U
trans-1,3-Dichloropropene	2.9E+04	--	4	11 U	12 UJ	29 U
Ethylbenzene	1.0E+08	4.0E+05	1.3E+04	11 U	12 UJ	29 U
2-Hexanone	--	--	--	11 UJ	12 UJ	29 UJ
Methylene chloride	3.8E+05	2.2E+04	20	11 U	12 UJ	29 U
4-Methyl-2-Pentanone	--	--	--	11 U	12 UJ	29 U
Styrene	2.0E+08	1.5E+06	4000	11 U	12 UJ	29 U
1,1,2,2-Tetrachloroethane	1.4E+04	1000	3	11 U	12 UJ	29 U
Tetrachloroethene	5300	2000	60	11 U	12 UJ	29 U
Toluene	2.0E+08	6.5E+05	1.2E+04	11 U	12 UJ	29 U
1,1,1-Trichloroethane	2.9E+08	1.2E+06	2000	11 U	12 UJ	29 U
1,1,2-Trichloroethane	5.0E+04	2000	20	11 U	12 UJ	29 U
Trichloroethene	7200	100	60	11 U	12 UJ	29 U
Vinyl chloride	4000	1000	10	11 U	12 UJ	29 U
Xylene (total)	1.0E+09	9.0E+05	1.9E+05	11 U	12 UJ	29 U

Any values exceeding RBSLs are shown shaded.
 U - compound was analyzed for but not detected at the concentration shown D - analyzed at a secondary dilution factor J - estimated value -- not available

Notes:
 1. RBSLs for soil ingestion/dermal contact are the lower of EPA industrial SSLs (EPA, 2002), shown in italics, and EPA Region 3 (Oct 2004) industrial soil ingestion risk-based concentrations, shown in standard font
 2. RBSLs for inhalation of volatiles in outdoor air are from EPA (2002), except for acetone and 2-butanone, which are from EPA Region 9 PRGs (Oct 2004).
 3. RBSLs for migration to groundwater are from EPA (2002) for a DAF of 20, except for 2-butanone, which is from TNRCC (March 2004).
 4. A detailed discussion concerning selection of RBSLs is provided in Section 5.1.2 of the report.

Table 5-60
 Volatile Organic Compound Concentrations in Subsurface Soil

SCYI RFI
 West API Separator (SWMU 2)
 (Page 1 of 1)

Sample ID	Soil Ingestion/ Dermal RBSL ¹	Inhalation RBSL ²	Migration to Groundwater RBSL ³	2-02(3.0-3.5) BQV519 12-Jul-96	2-02(5.0-5.5) BQV518 12-Jul-96	2-05(3-3.5) BQV522 12-Jul-96	2-08(2.5-3) BQV523 12-Jul-96
VOCs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)							
Acetone	1.1E+08	5.8E+07	1.6E+04	11 U	12 UJ	170 J	250 DJ
Benzene	5.2E+04	800	30	11 U	12 U	12 U	12 UJ
Bromodichloromethane	4.6E+04	--	600	11 U	12 U	12 U	12 UJ
Bromoform	3.6E+05	8.8E+04	800	11 U	12 U	12 U	12 UJ
Bromomethane	1.4E+06	1.3E+04	200	11 U	12 U	12 UJ	12 UJ
2-Butanone	6.1E+08	1.4E+08	2.9E+04	11 U	12 UJ	12 UJ	12 UJ
Carbon disulfide	1.0E+08	7.2E+05	3.2E+04	11 U	12 UJ	12 UJ	12 UJ
Carbon tetrachloride	2.2E+04	300	70	11 UJ	12 U	12 U	12 UJ
Chlorobenzene	2.0E+07	5.4E+05	1000	11 U	12 U	12 U	12 UJ
Chloroethane	3.4E+04	--	400	11 U	12 U	12 UJ	12 UJ
Chloroform	9.9E+05	--	6.00E+02	11 U	12 U	12 UJ	12 UJ
Chloromethane	1.0E+07	300	600	11 U	12 UJ	12 UJ	12 UJ
Dibromochloromethane	--	--	--	11 U	12 UJ	12 UJ	12 UJ
1,1-Dichloroethane	1.0E+08	1.7E+06	2.3E+04	11 U	12 UJ	12 UJ	12 UJ
1,2-Dichloroethane	3.1E+04	600	20	11 U	12 U	12 UJ	12 UJ
1,1-Dichloroethene	5.1E+07	4.1E+05	60	11 U	12 U	12 UJ	12 UJ
1,2-Dichloroethene (total)	9.2E+06	1.5E+05	400	11 U	12 U	12 UJ	12 UJ
1,2-Dichloropropane	4.2E+04	2.1E+04	30	11 U	12 U	12 U	12 UJ
cis-1,3-Dichloropropene	2.9E+04	--	4	11 U	12 U	12 U	12 UJ
trans-1,3-Dichloropropene	2.9E+04	--	4	11 U	12 U	12 U	12 UJ
Ethylbenzene	1.0E+08	4.0E+05	1.3E+04	11 U	12 U	12 U	12 UJ
2-Hexanone	--	--	--	11 UJ	12 UJ	12 UJ	12 UJ
Methylene chloride	3.8E+05	2.2E+04	20	11 U	12 UJ	12 UJ	12 UJ
4-Methyl-2-Pentanone	--	--	--	11 U	12 U	12 U	12 UJ
Styrene	2.0E+08	1.5E+06	4000	11 U	12 U	12 U	12 UJ
1,1,2,2-Tetrachloroethane	1.4E+04	1000	3	11 U	12 U	12 U	12 UJ
Tetrachloroethene	5300	2000	60	11 U	12 U	12 U	12 UJ
Toluene	2.0E+08	6.5E+05	1.2E+04	11 U	12 U	12 U	12 UJ
1,1,1-Trichloroethane	2.9E+08	1.2E+06	2000	11 U	12 U	12 UJ	12 UJ
1,1,2-Trichloroethane	5.0E+04	2000	20	11 U	12 U	12 U	12 UJ
Trichloroethene	7200	100	60	11 U	12 U	12 U	12 UJ
Vinyl chloride	4000	1000	10	11 U	12 U	12 UJ	12 UJ
Xylene (total)	1.0E+09	9.0E+05	1.9E+05	11 U	12 U	12 U	12 UJ

Any values exceeding RBSLs are shown shaded.
 U - compound was analyzed for but not detected at the concentration shown
 D - analyzed at a secondary dilution factor
 J - estimated value
 -- not available

Notes:
 1. RBSLs for soil ingestion/dermal contact are the lower of EPA industrial SSLs (EPA, 2002), shown in italics, and EPA Region 3 (Oct 2004) industrial soil ingestion risk-based concentrations, shown in standard for
 2. RBSLs for inhalation of volatiles in outdoor air are from EPA (2002), except for acetone and 2-butanone, which are from EPA Region 9 PRGs (Oct 2004).
 3. RBSLs for migration to groundwater are from EPA (2002) for a DAF of 20, except for 2-butanone, which is from TNRCC (March 2004).
 4. A detailed discussion concerning selection of RBSLs is provided in Section 5.1.2 of the report.

Table 5-61
 Base Neutral/Acid Extractable Compound Concentrations in Surface Soil
 SCYI RFI
 West API Separator (SWMU 2)
 (Page 1 of 3)

Sample ID	Soil Ingestion/ Dermal	Inhalation	Migration to	02-01(1-1.5)	2-02(0.5-1.0)	2-05(1-1.5)
Lab ID	RBSL ¹	RBSL ²	Groundwater	BQV540	BQV520	BQV524
Sample Date			RBSL ³	23-Jul-96	12-Jul-96	12-Jul-96
BNAs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)						
Acenaphthene	3.7E+07	5.6E+07	5.7E+05	3800 UJ	370 U	370 U
Acenaphthylene	--	--	--	3800 UJ	370 U	370 U
Anthracene	1.8E+08	1.0E+09	1.2E+07	3800 UJ	370 U	370 U
Benzo(a)anthracene	2000	--	2,000	3800 UJ	370 U	370 U
Benzo(b)fluoranthene	2000	2.6E+07	5,000	3800 UJ	370 U	370 U
Benzo(k)fluoranthene	2.3E+04	2.6E+08	4.9E+04	3800 UJ	370 U	370 U
Benzo(ghi)perylene	1.7E+07	--	4.6E+07	3800 UJ	370 U	370 U
Benzo(a)pyrene	200	2.6E+06	8,000	3800 UJ	370 U	370 U
bis(2-Chloroethoxy)methane	--	--	--	3800 UJ	370 U	370 U
bis(2-Chloroethyl) ether	2000	400	0.4	3800 UJ	370 U	370 U
bis(2-Ethylhexyl)phthalate	1.4E+05	1.0E+09	3.6E+06	3800 UJ	370 U	400 U
4-Bromophenyl phenyl ether	--	--	--	3800 UJ	370 U	370 U
Butyl benzyl phthalate	1.4E+08	--	9.3E+05	3800 UJ	370 UJ	370 UJ
Carbazole	9.6E+04	9.4E+08	600	3800 UJ	370 U	370 U
4-Chloroaniline	2.7E+06	--	700	3800 UJ	370 U	370 U
p-Chloro-m-cresol	--	--	--	3800 UJ	370 U	370 U
2-Chloronaphthalene	8.2E+07	--	--	3800 UJ	370 U	370 U
2-Chlorophenol	3.4E+06	--	4,000	3800 UJ	370 U	370 U
4-Chlorophenyl phenyl ether	--	--	--	3800 UJ	370 U	370 U
Chrysene	2.3E+05	1.0E+09	1.6E+05	3800 UJ	370 U	370 U
Dibenzo(a,h)anthracene	200	--	2,000	3800 UJ	370 U	370 U
Dibenzofuran	2.0E+06	1.3E+07	3.3E+04	3800 UJ	370 U	370 U
Di-n-butyl phthalate	6.8E+07	1.0E+09	2.3E+06	3800 UJ	370 U	370 U
1,2-Dichlorobenzene	6.2E+07	6.0E+05	1.7E+04	3800 UJ	370 U	370 U
1,3-Dichlorobenzene	3.1E+06	--	--	3800 UJ	370 U	370 U
1,4-Dichlorobenzene	8.0E+04	--	2,000	3800 UJ	370 U	370 U
3,3'-Dichlorobenzidine	4,000	--	7	3800 UJ	370 U	370 U

Table 5-61
 Base Neutral/Acid Extractable Compound Concentrations in Surface Soil
 SCYI RFI
 West API Separator (SWMU 2)
 (Page 2 of 3)

Sample ID	Soil Ingestion/ Dermal	Inhalation	Migration to	02-01(-1.5)	2-02(0.5-1.0)	2-05(1-1.5)
Lab ID	RBSL ¹	RBSL ²	Groundwater	BQV540	BQV520	BQV524
Sample Date	RBSL ¹	RBSL ²	RBSL ³	23-Jul-96	12-Jul-96	12-Jul-96
BNAs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)						
2,4-Dichlorophenol	2.1E+06	--	1,000	3800 UJ	370 U	370 U
Diethyl phthalate	5.5E+08	--	4.7E+05	3800 UJ	370 U	370 U
Dimethyl phthalate	1.0E+10	--	--	3800 UJ	370 U	370 U
2,4-Dimethylphenol	1.4E+07	--	9,000	3800 UJ	370 U	370 U
4,6-Dinitro-o-cresol	1.0E+05	--	--	9200 UJ	910 U	890 U
2,4-Dinitrophenol	1.4E+06	--	200	9200 UJ	910 UJ	890 UJ
2,4-Dinitrotoluene	2.0E+06	--	0.8	3800 UJ	370 U	370 U
2,6-Dinitrotoluene	1.0E+06	--	0.7	3800 UJ	370 U	370 U
Di-n-octyl phthalate	1.4E+07	--	1.0E+07	3800 UJ	370 U	370 U
Fluoranthene	2.4E+07	1.0E+09	4.3E+06	3800 UJ	370 U	39 J
Fluorene	2.4E+07	7.4E+07	5.6E+05	3800 UJ	370 U	370 U
Hexachlorobenzene	1,000	2,000	2,000	3800 UJ	370 U	370 U
Hexachlorobutadiene	2.5E+04	1.3E+04	2,000	3800 UJ	370 UJ	370 U
Hexachlorocyclopentadiene	4.1E+06	4.1E+04	4.0E+05	3800 UJ	370 U	370 UJ
Hexachloroethane	1.4E+05	9.2E+04	500	3800 UJ	370 U	370 U
Indeno(1,2,3-c,d)pyrene	2,000	2.6E+07	1.4E+04	3800 UJ	370 U	370 U
Isophorone	2.0E+06	--	500	3800 UJ	370 U	370 U
2-Methylnaphthalene	4.1E+06	--	1.7E+04	3800 UJ	370 U	370 U
2-Methylphenol	3.4E+07	--	1.5E+04	3800 UJ	370 U	370 U
4-Methylphenol	5.1E+06	--	--	3800 UJ	370 U	370 U
N-Nitrosodiphenylamine	3.9E+05	--	1,000	3800 UJ	370 U	370 U
N-Nitrosodi-n-propylamine	200	--	0.05	3800 UJ	370 U	370 U
Naphthalene	1.2E+07	2.4E+05	8.4E+04	3800 UJ	370 U	370 U
2-Nitroaniiline	3.1E+06	--	--	9200 UJ	910 U	890 U
3-Nitroaniiline	1.4E+05	--	--	9200 UJ	910 U	890 U
4-Nitroaniiline	1.4E+05	--	--	9200 UJ	910 UJ	890 UJ
Nitrobenzene	3.4E+05	1.3E+05	100	3800 UJ	370 U	370 U

Table 5-61
Base Neutral/Acid Extractable Compound Concentrations in Surface Soil
SCYI RFI
West API Separator (SWMU 2)
 (Page 3 of 3)

Sample ID	Soil Ingestion/	Inhalation	Migration to	02-01(1-1.5)	2-02(0.5-1.0)	2-05(1-1.5)
Lab ID	Dermal	RBSL ²	Groundwater	BQV540	BQV520	BQV524
Sample Date	RBSL ¹		RBSL ³	23-Jul-96	12-Jul-96	12-Jul-96
BNAs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)						
2-Nitrophenol	--	--	--	3800 UJ	370 U	370 U
4-Nitrophenol	--	--	--	9200 UJ	910 UJ	890 UJ
2,2'-oxybis(1-chloropropane)	4.1E+04	--	--	3800 UJ	370 U	370 U
Pentachlorophenol	1.0E+04	--	30	9200 UJ	910 U	890 U
Phenanthrene	1.7E+07	--	4.2E+05	3800 UJ	370 U	370 U
Phenol	2.1E+08	1.0E+09	1.0E+05	3800 UJ	370 U	370 U
Pyrene	1.8E+07	5.8E+08	4.2E+06	3800 UJ	370 UJ	42 J
1,2,4-Trichlorobenzene	6.8E+06	3.2E+06	5,000	3800 UJ	370 U	370 U
2,4,5-Trichlorophenol	6.8E+07	--	2.7E+05	9200 UJ	910 U	890 U
2,4,6-Trichlorophenol	1.7E+05	3.4E+05	200	3800 UJ	370 U	370 U

Any values exceeding RBSLs are shown shaded.

U - compound was analyzed for but not detected at the concentration shown

-- not available

J - estimated value

Notes:

1. RBSLs for soil ingestion/dermal contact are the lower of EPA industrial SSLs (EPA, 2002), shown in italics, and EPA Region 3 (Oct 2004) industrial soil ingestion risk-based concentrations (RBCs), shown in standard font, except for benzo(ghi)perylene and phenanthrene, which are derived from TNRCC (March 2004).
2. RBSLs for inhalation of volatiles in outdoor air are from EPA (2002).
3. RBSLs for migration to groundwater are from EPA (2002) for a DAF of 20, except for benzo(ghi)perylene, dibenzofuran, 2-methylnaphthalene, and phenanthrene, which are from TNRCC (March 2004).
4. A detailed discussion concerning selection of RBSLs is provided in Section 5.1.2 of the report

Table 5-62
Base Neutral/Acid Extractable Compound Concentrations in Subsurface Soil

		West API Separator (SWMU 2)					
		SCYI RFI					
Sample ID	Soil Ingestion/ Lab ID	Inhalation	Migration to	2-02(3.0-3.5)	2-02(5.0-5.5)	2-05(3-3.5)	2-08(2.5-3)
Sample Date	Dermal	RBSL ²	Groundwater	BQV519	BQV518	BQV522	BQV523
	RBSL ¹		RBSL ³	12-Jul-96	12-Jul-96	12-Jul-96	12-Jul-96
BNAs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)							
Acenaphthene	3.7E+07	5.6E+07	5.7E+05	370 U	370 U	380 U	380 U
Acenaphthylene	--	--	--	370 U	370 U	380 U	380 U
Anthracene	1.8E+08	1.0E+09	1.2E+07	370 U	370 U	380 U	380 U
Benzo(a)anthracene	2000	--	2,000	370 U	370 U	380 U	380 U
Benzo(b)fluoranthene	2000	2.6E+07	5,000	370 U	370 U	380 U	380 U
Benzo(k)fluoranthene	2.3E+04	2.6E+08	4.9E+04	370 U	370 U	380 U	380 U
Benzo(ghi)perylene	1.7E+07	--	4.6E+07	370 U	370 U	380 U	380 U
Benzo(a)pyrene	200	2.6E+06	8,000	370 U	370 U	380 U	380 U
bis(2-Chloroethoxy)methane	--	--	--	370 U	370 U	380 U	380 U
bis(2-Chloroethyl) ether	2000	400	0.4	370 U	370 U	380 U	380 U
bis(2-Ethylhexyl)phthalate	1.4E+05	1.0E+09	3.6E+06	370 U	370 U	380 U	380 U
4-Bromophenyl phenyl ether	--	--	--	370 U	370 U	380 U	380 U
Butyl benzyl phthalate	1.4E+08	--	9.3E+05	370 U	370 U	380 U	380 U
Carbazole	9.6E+04	9.4E+08	600	370 U	370 U	380 U	380 U
4-Chloroaniline	2.7E+06	--	700	370 U	370 U	380 U	380 U
p-Chloro-m-cresol	--	--	--	370 U	370 U	380 U	380 U
2-Chloronaphthalene	8.2E+07	--	--	370 U	370 U	380 U	380 U
2-Chlorophenol	3.4E+06	--	4,000	370 U	370 U	380 U	380 U
4-Chlorophenyl phenyl ether	--	--	--	370 U	370 U	380 U	380 U
Chrysene	2.3E+05	1.0E+09	1.6E+05	370 U	370 U	380 U	380 U
Dibenzo(a,h)anthracene	200	--	2,000	370 U	370 U	380 U	380 U
Dibenzofuran	2.0E+06	1.3E+07	3.3E+04	370 U	370 U	380 U	380 U
Di-n-butyl phthalate	6.8E+07	1.0E+09	2.3E+06	370 U	370 U	380 U	380 U
1,2-Dichlorobenzene	6.2E+07	6.0E+05	1.7E+04	370 U	370 U	380 U	380 U
1,3-Dichlorobenzene	3.1E+06	--	--	370 U	370 U	380 U	380 U
1,4-Dichlorobenzene	8.0E+04	--	2,000	370 U	370 U	380 U	380 U
3,3'-Dichlorobenzidine	4,000	--	7	370 U	370 U	380 U	380 U

Table 5-62
Base Neutral/Acid Extractable Compound Concentrations in Subsurface Soil
SCYI RFI

West API Separator (SWMU 2)

(Page 2 of 3)

Sample ID	Soil Ingestion/ Dermal	Inhalation	Migration to Groundwater	2-02(3.0-3.5)	2-02(5.0-5.5)	2-05(3-3.5)	2-08(2.5-3)
Lab ID	RBSL ¹	RBSL ²	RBSL ³	BQV519	BQV518	BQV522	BQV523
Sample Date				12-Jul-96	12-Jul-96	12-Jul-96	12-Jul-96
BNAs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)							
2,4-Dichlorophenol	2.1E+06	--	1,000	370 U	370 U	380 U	380 U
Diethyl phthalate	5.5E+08	--	4.7E+05	370 U	370 U	380 U	380 U
Dimethyl phthalate	1.0E+10	--	--	370 U	370 U	380 U	380 U
2,4-Dimethylphenol	1.4E+07	--	9,000	370 U	370 U	380 U	380 U
4,6-Dinitro-o-cresol	1.0E+05	--	--	910 U	910 U	930 U	930 U
2,4-Dinitrophenol	1.4E+06	--	200	910 UJ	910 UJ	930 UJ	930 UJ
2,4-Dinitrotoluene	2.0E+06	--	0.8	370 U	370 U	380 U	380 U
2,6-Dinitrotoluene	1.0E+06	--	0.7	370 U	370 U	380 U	380 U
Di-n-octyl phthalate	1.4E+07	--	1.0E+07	370 U	370 U	380 U	380 U
Fluoranthene	2.4E+07	1.0E+09	4.3E+06	370 U	370 U	380 U	380 U
Fluorene	2.4E+07	7.4E+07	5.6E+05	370 U	370 U	380 U	380 U
Hexachlorobenzene	1,000	2,000	2,000	370 U	370 U	380 U	380 U
Hexachlorobutadiene	2.5E+04	1.3E+04	2,000	370 U	370 UJ	380 U	380 U
Hexachlorocyclopentadiene	4.1E+06	4.1E+04	4.0E+05	370 UJ	370 U	380 UJ	380 UJ
Hexachloroethane	1.4E+05	9.2E+04	500	370 U	370 U	380 U	380 U
Indeno(1,2,3-c,d)pyrene	2,000	2.6E+07	1.4E+04	370 U	370 U	380 U	380 U
Isophorone	2.0E+06	--	500	370 U	370 U	380 U	380 U
2-Methylnaphthalene	4.1E+06	--	1.7E+04	370 U	370 U	380 U	380 U
2-Methylphenol	3.4E+07	--	1.5E+04	370 U	370 U	380 UJ	380 U
4-Methylphenol	5.1E+06	--	--	370 U	370 U	380 U	380 U
N-Nitrosodiphenylamine	3.9E+05	--	1,000	370 U	370 U	380 U	380 U
N-Nitrosodi-n-propylamine	200	--	0.05	370 U	370 U	380 U	380 U
Naphthalene	1.2E+07	2.4E+05	8.4E+04	370 U	370 U	380 U	380 U
2-Nitroaniline	3.1E+06	--	--	910 U	910 U	930 U	930 U
3-Nitroaniline	1.4E+05	--	--	910 U	910 U	930 U	930 U
4-Nitroaniline	1.4E+05	--	--	910 UJ	910 UJ	930 UJ	930 UJ
Nitrobenzene	3.4E+05	1.3E+05	100	370 U	370 U	380 U	380 U

Table 5-62
Base Neutral/Acid Extractable Compound Concentrations in Subsurface Soil

West API Separator (SWMU 2)
 SCYI RFI
 (Page 3 of 3)

Sample ID	Soil Ingestion/ Dermal	Inhalation RBSL ²	Migration to Groundwater	2-02(3.0-3.5)	2-02(5.0-5.5)	2-05(3-3.5)	2-08(2.5-3)
Lab ID	RBSL ¹		RBSL ³	BQV519	BQV518	BQV522	BQV523
Sample Date				12-Jul-96	12-Jul-96	12-Jul-96	12-Jul-96
BNAs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)							
2-Nitrophenol	--	--	--	370 U	370 U	380 U	380 U
4-Nitrophenol	--	--	--	910 U	910 U	930 UJ	930 U
2,2'-oxybis(1-chloropropane)	4.1E+04	--	--	370 U	370 U	380 U	380 U
Pentachlorophenol	1.0E+04	--	30	910 U	910 U	930 U	930 U
Phenanthrene	1.7E+07	--	4.2E+05	370 U	370 U	380 U	380 U
Phenol	2.1E+08	1.0E+09	1.0E+05	370 U	370 U	380 U	380 U
Pyrene	1.8E+07	5.8E+08	4.2E+06	370 U	370 U	380 UJ	380 U
1,2,4-Trichlorobenzene	6.8E+06	3.2E+06	5,000	370 U	370 U	380 U	380 U
2,4,5-Trichlorophenol	6.8E+07	--	2.7E+05	910 U	910 U	930 U	930 U
2,4,6-Trichlorophenol	1.7E+05	3.4E+05	200	370 U	370 U	380 U	380 U

Any values exceeding RBSLs are shown shaded.

U - compound was analyzed for but not detected at the concentration shown

-- not available

J - estimated value

Notes:

1. RBSLs for soil ingestion/dermal contact are the lower of EPA industrial SSLs (EPA, 2002), shown in italics, and EPA Region 3 (Oct 2004) industrial soil ingestion risk (RBCs), shown in standard font, except for benzo(ghi)perylene and phenanthrene, which are derived from TNRCC (March 2004).
2. RBSLs for inhalation of volatiles in outdoor air are from EPA (2002).
3. RBSLs for migration to groundwater are from EPA (2002) for a DAF of 20, except for benzo(ghi)perylene, dibenzofuran, 2-methylnaphthalene, and phenanthrene, which are from TNRCC (March 2004).
4. A detailed discussion concerning selection of RBSLs is provided in Section 5.1.2 of the report

Table 5-63
 Metal Concentrations in Surface Soil
 SCYI RFI
 West API Separator (SWMU 2)
 (Page 1 of 1)

Sample ID	Soil Ingestion/ Dermal	Inhalation RBSL ²	Migration to Groundwater	Background Level	02-01(1-1.5)	2-02(0.5-1.0)	2-05(1-1.5)
Lab ID	RBSL ¹	RBSL ²	RBSL ³		BQV540	BQV520	BQV524
Sample Date					23-Jul-96	12-Jul-96	12-Jul-96
Metals (Reporting units are in mg/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)							
Antimony	410	--	5	9.2	7.7 UJ	7.5 UJ	7.4 UJ
Arsenic	1.9	770	29	8.7	1.5 BJ	3.3 J	1.4 BJ
Barium	7.2E+04	1.0E+06	1,600	183	68.8	67.7	111
Beryllium	2,000	2,600	63	0.4	0.05 U	0.53 B	1 B
Cadmium	900	3,400	8	0.8	0.41 U	0.41 U	0.4 U
Chromium	3,100	510	38	31	4.7	5.6	6.4
Cobalt	2.0E+04	1900	1300	17	5.6 B	4.8 B	6.4 B
Lead	400	--	--	32	6.2	9	11
Mercury	340	14	2	1.7	0.05 U	0.05 U	0.06 B
Nickel	2.0E+04	2.6E+04	130	28	2.8 B	5.2 B	8.1 B
Selenium	5,100	--	5	2.2	1.1 UJ	0.81 U	0.8 U
Vanadium	1,000	--	6,000	139	40.7	32.1	35.3

Any values exceeding RBSLs are shown shaded.

U - compound was analyzed for but not detected at the concentration shown

J - estimated based on data validation

B - concentration is between the instrument detection limit (IDL) and contract required detection limit (CRDL). Detections may be the result of instrument noise and other lab artifacts, especially near the IDL.

-- not available

Notes:

1. RBSLs for soil ingestion/dermal contact are the lower of EPA industrial SSLs (EPA, 2002), shown in italics, and EPA Region 3 (Oct 2004) industrial soil ingestion risk-based concentrations, shown in standard font.
2. RBSLs for inhalation of particulates or vapor in outdoor air are from EPA (2002).
3. RBSLs for migration to groundwater are from EPA (2002) for a DAF of 20.

Table 5-64
 Metal Concentrations for Subsurface Soil
 SCYI RFI
 West API Separator (SWMU 2)
 (Page 1 of 1)

Sample ID	Soil Ingestion/ Dermal	Inhalation RBSL ²	Migration to Groundwater RBSL ³	Background Level	2-02(3.0-3.5) BQV519 12-Jul-96	2-02(5.0-5.5) BQV518 12-Jul-96	2-05(3-3.5) BQV522 12-Jul-96	2-08(2.5-3) BQV523 12-Jul-96
Antimony	410	--	5	9.2	7.6 UJ	7.6 UJ	7.7 UJ	7.7 UJ
Arsenic	1.9	770	29	8.7	1.5 BJ	1.6 BJ	3.5 J	3.2 J
Barium	7.2E+04	1.0E+06	1,600	183	91.7	75.2	20.7 B	35.3 B
Beryllium	2,000	2,600	63	0.4	0.14 B	0.17 B	0.05 U	0.07 B
Cadmium	900	3,400	8	0.8	0.41 U	0.41 U	0.41 U	0.42 U
Chromium	3,100	510	38	31	3.3	4.5	1.7 B	2.7
Cobalt	2.0E+04	1900	1300	17	6.7 B	6.6 B	3.2 B	3.6 B
Lead	400	--	--	32	2.3	1.5	0.74	0.62 UJ
Mercury	340	14	2	1.7	0.05 U	0.05 U	0.05 U	0.05 U
Nickel	2.0E+04	2.6E+04	130	28	2.2 B	1.4 B	1.4 U	1.4 B
Selenium	5,100	--	5	2.2	0.82 U	0.82 U	0.83 U	0.83 U
Vanadium	1,000	--	6,000	139	49.8	46.1	16.8	35.9

Any values exceeding RBSLs are shown shaded.

U - compound was analyzed for but not detected at the concentration shown

J - estimated based on data validation

B - concentration is between the instrument detection limit (IDL) and contract required detection limit (CRDL). Detections may be the result of instrument noise and other lab artifacts, especially near the IDL.

-- not available

Notes:

1. RBSLs for soil ingestion/dermal contact are the lower of EPA industrial SSLs (EPA, 2002), shown in italics, and EPA Region 3 (Oct 2004) industrial soil ingestion risk-based concentrations, shown in standard font.
2. RBSLs for inhalation of particulates or vapor in outdoor air are from EPA (2002).
3. RBSLs for migration to groundwater are from EPA (2002) for a DAF of 20.

TABLE 5-65
 Volatile Organic Compound, Concentrations in Groundwater
 SCYI RFI
 West API Separator (SWMU 2)
 (Page 1 of 1)

Well ID	MCL or RBSL ¹	2-09 N36348-6 4-Apr-03
Sample Date		
VOCs (Reporting units are in ug/l)		
Acetone	5500	5 U
Benzene	5	1 U
Bromodichloromethane	80	1 U
Bromoform	80	1 U
Bromomethane	8.5	1 U
2-Butanone (MEK)	7000	5 U
Carbon disulfide	1000	15
Carbon tetrachloride	5	1 U
Chlorobenzene	100	1 U
Chloroethane	3.6	1 U
Chloroform	80	1 U
Chloromethane	190	1 U
Dibromochloromethane	80	1 U
1,1-Dichloroethane	800	1 U
1,2-Dichloroethane	5	1 U
1,1-Dichloroethene	7	1 U
cis-1,2-Dichloroethene	70	1 U
1,2-Dichloropropane	5	1 U
cis-1,3-Dichloropropene	0.44	1 U
trans-1,3-Dichloropropene	0.44	1 U
Ethylbenzene	700	1 U
2-Hexanone	--	5 U
Methylene Chloride	5	2 U
4-Methyl-2-Pentanone (MIBK)	6300	5 U
Styrene	100	1 U
1,1,2,2-Tetrachloroethane	0.053	1 U
Tetrachloroethene	5	1 U
Toluene	1000	1 U
1,1,1-Trichloroethane	200	1 U
1,1,2-Trichloroethane	5	1 U
Trichloroethene	5	1 U
Vinyl chloride	2	1 U
Xylene (total)	1.0E+04	1 U

Any results that exceed MCLs or RBSLs are shown bolded and shaded.

U - compound was analyzed for, but not detected at the concentration shown. J - estimated value. -- not available

Notes:

1. EPA Maximum Contaminant Levels (MCLs) are shown in bold. For compounds without MCLs, EPA Region 3 risk-based screening levels for tap water (Oct 2004) are shown in italics.
2. A detailed discussion concerning selection of screening levels is provided in Section 5.1.2 of this report.

Table 5-66
 Base Neutral/Acid Compound Concentrations in Groundwater
 SCYI RFI
 West API Separator (SWMU 2)
 (Page 1 of 3)

Well ID	MCL	2-09
Lab ID	or RBSL ¹	N36348-6R
Sample Date		4-Apr-03
BNAs (Reporting units are in ug/L)		
Acenaphthene	370	2.1 U
Acenaphthylene	1,500	2.1 U
Anthracene	1,800	2.1 U
Benzo(a)anthracene	0.092	2.1 U
Benzo(b)fluoranthene	0.092	2.1 U
Benzo(k)fluoranthene	0.92	2.1 U
Benzo(ghi)perylene	73	2.1 U
Benzo(a)pyrene	0.2	2.1 U
bis(2-Chloroethoxy)methane	--	2.1 U
bis(2-Chloroethyl) ether	0.0096	2.1 U
bis(2-Ethylhexyl)phthalate	6	2.1 U
4-Bromophenyl phenyl ether	--	2.1 U
Butyl benzyl phthalate	7,300	2.1 U
Carbazole	3.3	2.1 U
4-Chloroaniline	150	5.2 U
p-Chloro-m-cresol	--	5.2 U
2-Chloronaphthalene	490	5.2 U
2-Chlorophenol	30	5.2 U
4-Chlorophenyl phenyl ether	--	2.1 U
Chrysene	9.2	2.1 U
Dibenzo(a,h)anthracene	0.0092	2.1 U
Dibenzofuran	12	5.2 U
Di-n-butyl phthalate	3,700	2.1 U
1,2-Dichlorobenzene	600	2.1 U
1,3-Dichlorobenzene	18	2.1 U
1,4-Dichlorobenzene	75	2.1 U
3,3'-Dichlorobenzidine	0.15	5.2 U

Table 5-66
 Base Neutral/Acid Compound Concentrations in Groundwater
 SCYI RFI
 West API Separator (SWMU 2)
 (Page 2 of 3)

Well ID	MCL or RBSL ¹	2-09 N36348-6R 4-Apr-03
Sample Date		
BNAs (Reporting units are in ug/L)		
2,4-Dichlorophenol	110	5.2 U
Diethyl phthalate	2.9E+04	2.1 U
Dimethyl phthalate	3.7E+05	2.1 U
2,4-Dimethylphenol	730	5.2 U
4,6-Dinitro-o-cresol	3.7	21 U
2,4-Dinitrophenol	73	21 U
2,4-Dinitrotoluene	73	2.1 U
2,6-Dinitrotoluene	37	2.1 U
Di-n-octyl phthalate	1,500	2.1 U
Fluoranthene	1,500	2.1 U
Fluorene	240	2.1 U
Hexachlorobenzene	1	2.1 U
Hexachlorobutadiene	0.86	2.1 U
Hexachlorocyclopentadiene	50	21 U
Hexachloroethane	4.8	5.2 U
Indeno(1,2,3-c,d)pyrene	0.092	2.1 U
Isophorone	70	2.1 U
2-Methylnaphthalene	24	2.1 U
2-Methylphenol	1,800	5.2 U
4-Methylphenol	180	5.2 U
N-Nitrosodiphenylamine	14	5.2 U
N-Nitrosodi-n-propylamine	0.0096	2.1 U
Naphthalene	6.5	2.1 U
2-Nitroaniline	110	5.2 U
3-Nitroaniline	3.3	5.2 U
4-Nitroaniline	3.3	5.2 U
Nitrobenzene	3.5	2.1 U

Table 5-66
Base Neutral/Acid Compound Concentrations in Groundwater

SCYI RFI

West API Separator (SWMU 2)

(Page 3 of 3)

Well ID	MCL	2-09
Lab ID	or RBSL ¹	N36348-6R
Sample Date		4-Apr-03
BNAs (Reporting units are in ug/L)		
2-Nitrophenol	--	5.2 U
4-Nitrophenol	--	21 U
2,2'-oxybis(1-chloropropane)	--	2.1 U
Pentachlorophenol	1	21 U
Phenanthrene	73	2.1 U
Phenol	1.1E+04	5.2 U
Pyrene	180	2.1 U
1,2,4-Trichlorobenzene	70	2.1 U
2,4,5-Trichlorophenol	3,700	5.2 U
2,4,6-Trichlorophenol	6.1	5.2 U

Any results that exceed MCLs or RBSLs are shown bolded and shaded.

U - compound was analyzed for, but not detected at the concentration shown.

J - estimated value.

-- not available

Notes:

1. EPA Maximum Contaminant Levels (MCLs) are shown in bold. For compounds without MCLs, EPA Region 3 risk-based screening levels for tap water (Oct 2004) are shown in italics. RBSLs for acenaphthylene, benzo(ghi)perylene, and phenanthrene are from TNRCC (2004).
2. A detailed discussion concerning selection of screening levels is provided in Section 5.1.2 of this report.

Table 5-67
Metal Concentrations in Groundwater
 SCYI RFI
 West API Separator (SWMU 2)
 (Page 1 of 1)

Well ID	MCL	2-09	2-09
Lab ID	or RBSL ¹	N36348-6	N36348-6A
Sample Date		4-Apr-03	4-Apr-03
		Total	Dissolved
Metals (Reporting units are in ug/L)			
Antimony	6	2.3 U	2.3 U
Arsenic	10	3.1 B	2.8 B
Barium	2000	153 B	144 B
Beryllium	4	0.10 U	0.10 U
Cadmium	5	0.30 U	0.35 B
Chromium	100	0.40 U	0.40 U
Cobalt	730	0.73 B	0.60 U
Lead	15	1.9 U	1.9 U
Mercury	2	0.10 B	0.11 B
Nickel	730	2.2 B	2.6 B
Selenium	50	3.6 U	3.6 U
Vanadium	37	4.8 B	3.4 B

Any results that exceed MCLs or RBSLs are shown bolded and shaded.

U - compound was analyzed for but not detected at the concentration shown

J - estimated based on data validation

B - concentration is between the instrument detection limit (IDL) and contract required detection limit (CRDL). Detections may be the result of instrument noise and other lab artifacts, especially near the IDL.

--- not sampled

Notes:

1. EPA Maximum Contaminant Levels (MCLs) are shown in bold. For compounds without MCLs, EPA Region 3 risk-based screening levels (RBCs) for tap water (Oct 2004) are shown in italics.
2. EPA Region 3 tap water RBCs are less than MCLs for all detected constituents, except for arsenic, which has a Region 3 RBC of 0.045 ug/L.
3. A detailed discussion concerning selection of screening levels is provided in Section 5.1.2 of this report.

Table 5-68
 Immunoassay Field Screening Results
 SCYI RFI
 West API Separator (SWMU 2)
 (Page 1 of 1)

Sample Location	Depth (ft)								BTEX								PAH									
	0.5-1.0	1.0-1.5	1.5-2.0	1.5-2.0	1.5-2.0*	3.0-3.5	3.0-3.5(D)	4.5-5.0	5.0-5.5	0.5-1.0	1.0-1.5	1.0-1.5**	1.5-2.0	3.0-3.5	3.0-3.5(D)	4.5-5.0	5.0-5.5	0.5-1.0	1.0-1.5	1.0-1.5**	1.5-2.0	3.0-3.5	3.0-3.5(D)	4.5-5.0	5.0-5.5	
2-01		ND																								
2-02			ND																							
2-03			> 35		3.5			ND																		
2-04		> 35																								
2-05			ND																							
2-06																										
2-07																										
2-08			ND																							

Notes:

1. All immunoassay concentrations are in ppm.
2. ND means non-detect. The detection limit was 2.5 ppm for BTEX and 0.6 ppm for PAHs.
3. (D) suffix denotes duplicate.
4. A blank box denotes not a sampled depth.
5. Bolded boxes indicate concentrations above site screening levels of 2.5 ppm for BTEX and 5 ppm for PAHs. Concentrations above site screening levels may also be due to cross-reactivity to non-target constituents.
6. * Denotes location of co-located sample 2-01 (1.5-2.0) for detailed VOC analysis.
7. ** Denotes location of co-located sample 2-01 (1-1.5) for detailed BNA analysis.

Table 5-69
 Volatile Organic Compound Concentrations in Surface Soil
 SCYI RFI
 East API Separator (SWMU 3)
 (Page 1 of 1)

Sample ID	Soil Ingestion/ Dermal RBSL ¹	Inhalation RBSL ²	Migration to Groundwater RBSL ³	3-03(0.5-1) BQ0887 3-Jul-96	03-08(1.5-2.0) BQ0816 21-Jun-96	100 DU
Acetone	1.1E+08	5.8E+07	1.6E+04	77 J	100 DU	
Benzene	5.2E+04	800	30	11 U	12 UJ	
Bromodichloromethane	4.6E+04	--	600	11 U	12 UJ	
Bromoform	3.6E+05	8.8E+04	800	11 U	12 UJ	
Bromomethane	1.4E+06	1.3E+04	200	11 U	12 UJ	
2-Butanone	6.1E+08	1.4E+08	2.9E+04	11 U	12 U	
Carbon disulfide	1.0E+08	7.2E+05	3.2E+04	11 U	3 J	
Carbon tetrachloride	2.2E+04	300	70	11 U	12 UJ	
Chlorobenzene	2.0E+07	5.4E+05	1000	11 U	12 UJ	
Chloroethane	3.4E+04	--	400	11 U	12 UJ	
Chloroform	9.9E+05	--	6.00E+02	11 U	12 UJ	
Chloromethane	1.0E+07	300	600	11 U	12 UJ	
Dibromochloromethane	--	--	--	11 U	12 UJ	
1,1-Dichloroethane	1.0E+08	1.7E+06	2.3E+04	11 U	12 UJ	
1,2-Dichloroethane	3.1E+04	600	20	11 U	12 UJ	
1,1-Dichloroethene	5.1E+07	4.1E+05	60	11 U	12 UJ	
1,2-Dichloroethene (total)	9.2E+06	1.5E+05	400	11 U	12 UJ	
1,2-Dichloropropane	4.2E+04	2.1E+04	30	11 U	12 UJ	
cis-1,3-Dichloropropene	2.9E+04	--	4	11 U	12 UJ	
trans-1,3-Dichloropropene	2.9E+04	--	4	11 U	12 UJ	
Ethylbenzene	1.0E+08	4.0E+05	1.3E+04	11 U	12 UJ	
2-Hexanone	--	--	--	11 U	12 UJ	
Methylene chloride	3.8E+05	2.2E+04	20	11 U	12 UJ	
4-Methyl-2-Pentanone	--	--	--	11 U	12 UJ	
Styrene	2.0E+08	1.5E+06	4000	11 U	12 UJ	
1,1,2,2-Tetrachloroethane	1.4E+04	1000	3	11 U	12 UJ	
Tetrachloroethene	5300	2000	60	11 U	12 UJ	
Toluene	2.0E+08	6.5E+05	1.2E+04	11 U	12 UJ	
1,1,1-Trichloroethane	2.9E+08	1.2E+06	2000	11 U	12 UJ	
1,1,2-Trichloroethane	5.0E+04	2000	20	11 U	12 UJ	
Trichloroethene	7200	100	60	11 U	12 UJ	
Vinyl chloride	4000	1000	10	11 U	12 UJ	
Xylene (total)	1.0E+09	9.0E+05	1.9E+05	11 U	12 UJ	

Any values exceeding RBSLs are shown shaded.
 U - compound was analyzed for but not detected at the concentration shown
 D - analyzed at a secondary dilution factor
 J - estimated value
 -- not available

Notes:
 1. RBSLs for soil ingestion/dermal contact are the lower of EPA industrial SSLs (EPA, 2002), shown in italics, and EPA Region 3 (Oct 2004) industrial soil ingestion risk-based concentrations, shown in standard font.
 2. RBSLs for inhalation of volatiles in outdoor air are from EPA (2002), except for acetone and 2-butanone, which are from EPA Region 9 PRGs (Oct 2004).
 3. RBSLs for migration to groundwater are from EPA (2002) for a DAF of 20, except for 2-butanone, which is from TNRCC (March 2004).
 4. A detailed discussion concerning selection of RBSLs is provided in Section 5.1.2 of the report.

Table 5-70
Volatile Organic Compound Concentrations in Subsurface Soil

SCYI RFI
East API Separator (SWMU 3)
(Page 1 of 1)

Sample ID	Soil Ingestion/ Dermal RBSL ¹	Inhalation RBSL ²	Migration to Groundwater RBSL ³	3-01(3.5-4) BQV501 2-Jul-96	3-03(3.3-5) BQ885 3-Jul-96	3-03(8-8.5) BQ880 3-Jul-96	3-07(8-8.5) BQV509 9-Jul-96	3-08(3.0-3.5) BQ814 21-Jun-96	3-08(8.0-8.5) BQ812 21-Jun-96	3-08(3.0-3.5) (Reanalysis) 21-Jun-96	3-08(8.0-8.5) (Reanalysis) 21-Jun-96	3-09(10.10.5) BQV510 10-Jul-96
VOCs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)												
Acetone	1.1E+08	5.8E+07	1.6E+04	11 U	1200 J	21 J	26 UJ	110 UJ	200	26 UJ	33	120 J
Benzene	5.2E+04	800	30	11 UJ	110 U	12 U	12 U	12 U	12 U	13 U	13 U	12 U
Bromodichloromethane	4.6E+04	--	600	11 UJ	110 U	12 U	12 U	12 U	12 U	13 U	13 U	12 U
Bromoform	3.6E+05	8.8E+04	800	11 UJ	110 U	12 U	12 U	12 U	12 U	13 U	13 U	12 U
Bromomethane	1.4E+06	1.3E+04	200	11 U	110 U	12 U	12 U	12 U	12 U	13 U	13 U	12 U
2-Butanone	6.1E+08	1.4E+08	2.9E+04	11 UJ	110 U	12 U	12 U	12 U	12 U	13 U	13 U	12 U
Carbon disulfide	1.0E+08	7.2E+05	3.2E+04	11 U	110 U	12 U	12 U	12 UJ	12 U	13 UJ	3 J	12 U
Carbon tetrachloride	2.2E+04	300	70	11 UJ	110 U	12 U	12 U	12 U	12 U	13 U	13 U	12 U
Chlorobenzene	2.0E+07	5.4E+05	1000	11 UJ	110 U	12 U	12 U	12 U	12 U	13 U	13 U	12 U
Chloroethane	3.4E+04	--	400	11 U	110 U	12 U	12 U	12 U	12 U	13 U	13 U	12 U
Chloroform	9.9E+05	--	6.00E+02	11 U	110 U	12 U	12 U	12 U	12 U	13 U	13 U	12 U
Chloromethane	1.0E+07	300	600	11 U	110 U	12 U	12 U	12 U	12 U	13 U	13 U	12 U
Dibromochloromethane	--	--	--	11 UJ	110 U	12 U	12 U	12 U	12 U	13 U	13 U	12 U
1,1-Dichloroethane	1.0E+08	1.7E+06	2.3E+04	11 U	110 U	12 U	12 U	12 U	12 U	13 U	13 U	12 U
1,2-Dichloroethane	3.1E+04	600	20	11 U	110 U	12 U	12 U	12 U	12 U	13 U	13 U	12 U
1,1-Dichloroethene	5.1E+07	4.1E+05	60	11 U	110 U	12 U	12 U	12 U	12 U	13 U	13 U	12 U
1,2-Dichloroethene (total)	9.2E+06	1.5E+05	400	11 U	110 U	12 U	12 U	12 U	12 U	13 U	13 U	12 U
1,2-Dichloropropane	4.2E+04	2.1E+04	30	11 UJ	110 U	12 U	12 U	12 U	12 U	13 U	13 U	12 U
cis-1,3-Dichloropropene	2.9E+04	--	4	11 UJ	110 U	12 U	12 U	12 U	12 U	13 U	13 U	12 U
trans-1,3-Dichloropropene	2.9E+04	--	4	11 UJ	110 U	12 U	12 U	12 U	12 U	13 U	13 U	12 U
Ethylbenzene	1.0E+08	4.0E+05	1.3E+04	11 UJ	110 U	12 U	12 U	12 U	12 U	13 U	13 U	12 U
2-Hexanone	--	--	--	11 UJ	110 U	12 U	12 U	12 U	12 U	13 U	13 U	12 U
Methylene chloride	3.8E+05	2.2E+04	20	11 U	48 J	5 J	12 U	12 UJ	12 U	13 UJ	13 U	12 U
4-Methyl-2-Pentanone	--	--	--	11 UJ	110 U	12 U	12 U	12 U	12 U	13 U	13 U	12 U
Styrene	2.0E+08	1.5E+06	4000	11 UJ	110 U	12 U	12 U	12 U	12 U	13 U	13 U	12 U
1,1,2,2-Tetrachloroethane	1.4E+04	1000	3	11 UJ	110 U	12 U	12 U	12 U	12 U	13 U	13 U	12 U
Tetrachloroethene	5300	2000	60	11 UJ	110 U	12 U	12 U	12 U	12 U	13 U	13 U	12 U
Toluene	2.0E+08	6.5E+05	1.2E+04	11 UJ	110 U	12 U	12 U	12 U	12 U	13 U	13 U	12 U
1,1,1-Trichloroethane	2.9E+08	1.2E+06	2000	11 U	110 U	12 U	12 U	12 U	12 U	13 U	13 U	12 U
1,1,2-Trichloroethane	5.0E+04	2000	20	11 UJ	110 U	12 U	12 U	12 U	12 U	13 U	13 U	12 U
Trichloroethene	7200	100	60	11 UJ	110 U	12 U	12 U	12 U	12 U	13 U	13 U	12 U
Vinyl chloride	4000	1000	10	11 U	110 U	12 U	12 U	12 U	12 U	13 U	13 U	12 U
Xylene (total)	1.0E+09	9.0E+05	1.9E+05	11 UJ	110 U	12 U	12 U	12 U	12 U	13 U	13 U	12 U

Any values exceeding RBSLs are shown shaded.

U - compound was analyzed for but not detected at the concentration shown

D - analyzed at a secondary dilution factor

J - estimated value

-- not available

Notes:
 1. RBSLs for soil ingestion/dermal contact are the lower of EPA industrial SSLs (EPA, 2002), shown in italics, and EPA Region 3 (Oct 2004) industrial soil ingestion risk-based concentrations, shown in standard font.
 2. RBSLs for inhalation of volatiles in outdoor air are from EPA (2002), except for acetone and 2-butanone, which are from EPA Region 9 PRGs (Oct 2004).
 3. RBSLs for migration to groundwater are from EPA (2002) for a DAF of 20, except for 2-butanone, which is from TNRCC (March 2004).
 4. A detailed discussion concerning selection of RBSLs is provided in Section 5.1.2 of the report.

Table 5-71
 Base Neutral/Acid Extractable Compound Concentrations in Surface Soil
 SCYI RFI
 East API Separator (SWMU 3)
 (Page 1 of 3)

Sample ID	Soil Ingestion/ Dermal RBSL ¹	Inhalation RBSL ²	Migration to Groundwater RBSL ³	3-03(1.5-2) BQ0886 3-Jul-96	03-08(0.5-1.0) BQ0815 21-Jun-96
BNAs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)					
Acenaphthene	3.7E+07	5.6E+07	5.7E+05	360 U	370 U
Acenaphthylene	--	--	--	360 U	370 U
Anthracene	1.8E+08	1.0E+09	1.2E+07	360 U	370 U
Benzo(a)anthracene	2000	--	2,000	360 U	370 U
Benzo(b)fluoranthene	2000	2.6E+07	5,000	360 U	370 U
Benzo(k)fluoranthene	2.3E+04	2.6E+08	4.9E+04	360 U	370 U
Benzo(ghi)perylene	1.7E+07	--	4.6E+07	360 U	370 U
Benzo(a)pyrene	200	2.6E+06	8,000	360 U	230 J
bis(2-Chloroethoxy)methane	--	--	--	360 U	370 U
bis(2-Chloroethyl) ether	2000	400	0.4	360 U	370 U
bis(2-Ethylhexyl)phthalate	1.4E+05	1.0E+09	3.6E+06	1600 UJ	720 U
4-Bromophenyl phenyl ether	--	--	--	360 U	370 U
Butyl benzyl phthalate	1.4E+08	--	9.3E+05	360 U	370 U
Carbazole	9.6E+04	9.4E+08	600	360 U	370 U
4-Chloroaniline	2.7E+06	--	700	360 U	370 U
p-Chloro-m-cresol	--	--	--	360 U	370 U
2-Chloronaphthalene	8.2E+07	--	--	360 U	370 U
2-Chlorophenol	3.4E+06	--	4,000	360 U	370 U
4-Chlorophenyl phenyl ether	--	--	--	360 U	370 U
Chrysene	2.3E+05	1.0E+09	1.6E+05	360 U	300 J
Dibenzo(a,h)anthracene	200	--	2,000	360 U	370 U
Dibenzofuran	2.0E+06	1.3E+07	3.3E+04	360 U	370 U
Di-n-butyl phthalate	6.8E+07	1.0E+09	2.3E+06	360 U	370 U
1,2-Dichlorobenzene	6.2E+07	6.0E+05	1.7E+04	360 U	370 U
1,3-Dichlorobenzene	3.1E+06	--	--	360 U	370 U
1,4-Dichlorobenzene	8.0E+04	--	2,000	360 U	370 U
3,3'-Dichlorobenzidine	4,000	--	7	360 UJ	370 U

Table 5-71
 Base Neutral/Acid Extractable Compound Concentrations in Surface Soil
 SCYI RFI
 East API Separator (SWMU 3)
 (Page 2 of 3)

Sample ID	Soil Ingestion/ Dermal	Inhalation	Migration to	3-03(1.5-2)	03-08(0.5-1.0)
Lab ID	RBSL ¹	RBSL ²	Groundwater	BQO886	BQO815
Sample Date			RBSL ³	3-Jul-96	21-Jun-96
BNAs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)					
2,4-Dichlorophenol	2.1E+06	--	1,000	360 U	370 U
Diethyl phthalate	5.5E+08	--	4.7E+05	360 U	370 U
Dimethyl phthalate	1.0E+10	--	--	360 U	370 U
2,4-Dimethylphenol	1.4E+07	--	9,000	360 U	370 U
4,6-Dinitro-o-cresol	1.0E+05	--	--	880 U	910 U
2,4-Dinitrophenol	1.4E+06	--	200	880 UJ	910 U
2,4-Dinitrotoluene	2.0E+06	--	0.8	360 U	370 U
2,6-Dinitrotoluene	1.0E+06	--	0.7	360 U	370 U
Di-n-octyl phthalate	1.4E+07	--	1.0E+07	360 UJ	370 U
Fluoranthene	2.4E+07	1.0E+09	4.3E+06	360 U	370 U
Fluorene	2.4E+07	7.4E+07	5.6E+05	360 U	130 J
Hexachlorobenzene	1,000	2,000	2,000	360 U	370 U
Hexachlorobutadiene	2.5E+04	1.3E+04	2,000	360 U	370 U
Hexachlorocyclopentadiene	4.1E+06	4.1E+04	4.0E+05	360 UJ	370 U
Hexachloroethane	1.4E+05	9.2E+04	500	360 U	370 U
Indeno(1,2,3-c,d)pyrene	2,000	2.6E+07	1.4E+04	360 U	370 U
Isophorone	2.0E+06	--	500	360 U	370 U
2-Methylnaphthalene	4.1E+06	--	1.7E+04	360 U	210 J
2-Methylphenol	3.4E+07	--	1.5E+04	360 U	370 UJ
4-Methylphenol	5.1E+06	--	--	360 U	370 U
N-Nitrosodiphenylamine	3.9E+05	--	1,000	360 U	370 U
N-Nitrosodi-n-propylamine	200	--	0.05	360 U	370 U
Naphthalene	1.2E+07	2.4E+05	8.4E+04	360 U	54 J
2-Nitroaniline	3.1E+06	--	--	880 U	910 U
3-Nitroaniline	1.4E+05	--	--	880 U	910 U
4-Nitroaniline	1.4E+05	--	--	880 UJ	910 U
Nitrobenzene	3.4E+05	1.3E+05	100	360 U	370 U

Table 5-71
 Base Neutral/Acid Extractable Compound Concentrations in Surface Soil
 SCYI RFI
 East API Separator (SWMU 3)
 (Page 3 of 3)

Sample ID	Soil Ingestion/ Dermal	Inhalation RBSL ²	Migration to Groundwater	3-03(1.5-2) BQ0886	03-08(0.5-1.0) BQ0815
Lab ID	RBSL ¹		RBSL ³	3-Jul-96	21-Jun-96
Sample Date					
BNAs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)					
2-Nitrophenol	--	--	--	360 U	370 U
4-Nitrophenol	--	--	--	880 UJ	910 U
2,2'-oxybis(1-chloropropane)	4.1E+04	--	--	360 U	370 U
Pentachlorophenol	1.0E+04	--	30	880 U	910 U
Phenanthrene	1.7E+07	--	4.2E+05	360 U	270 J
Phenol	2.1E+08	1.0E+09	1.0E+05	360 U	370 U
Pyrene	1.8E+07	5.8E+08	4.2E+06	360 U	180 J
1,2,4-Trichlorobenzene	6.8E+06	3.2E+06	5,000	360 U	370 U
2,4,5-Trichlorophenol	6.8E+07	--	2.7E+05	880 U	910 U
2,4,6-Trichlorophenol	1.7E+05	3.4E+05	200	360 U	370 U

Any values exceeding RBSLs are shown shaded.

U - compound was analyzed for but not detected at the concentration shown

J - estimated value

Notes:

1. RBSLs for soil ingestion/dermal contact are the lower of EPA industrial SSLs (EPA, 2002), shown in italics, and EPA Region 3 (Oct 2004) industrial soil ingestion risk-base (RBCs), shown in standard font, except for benzo(ghi)perylene and phenanthrene, which are derived from TNRCC (March 2004).
2. RBSLs for inhalation of volatiles in outdoor air are from EPA (2002).
3. RBSLs for migration to groundwater are from EPA (2002) for a DAF of 20, except for benzo(ghi)perylene, dibenzofuran, 2-methylnaphthalene, and phenanthrene, which are from TNRCC (March 2004).
4. A detailed discussion concerning selection of RBSLs is provided in Section 5.1.2 of the report

-- not available

Table 5-72
 Base Neutral/Acid Extractable Compound Concentrations in Subsurface Soil
 SCYI RFI
 East API Separator (SWMU 3)
 (Page 1 of 3)

Sample ID	Soil Ingestion/ Dermal RBSL ¹	Inhalation RBSL ²	Migration to Groundwater RBSL ³	3-01(3.5-4)	3-03(3-3.5)	3-03(8-8.5)	3-07(8-8.5)	03-08(3.0-3.5)	03-08(8.0-8.5)	3-09(10-10.5)
Lab ID				BQV501	BQO885	BQO880	BQV509	BQO813	BQO811	BQV510
Sample Date				2-Jul-96	3-Jul-96	3-Jul-96	9-Jul-96	21-Jun-96	21-Jun-96	10-Jul-96
BNAs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)										
Acenaphthene	3.7E+07	5.6E+07	5.7E+05	1800 U	370 U	400 U	400 U	400 U	450 U	390 U
Acenaphthylene	--	--	--	1800 U	370 U	400 U	400 U	400 U	450 U	390 U
Anthracene	1.8E+08	1.0E+09	1.2E+07	1800 U	370 U	400 U	400 U	400 U	450 U	390 U
Benzo(a)anthracene	2000	--	2,000	1800 U	370 U	400 U	400 U	400 U	450 U	390 U
Benzo(b)fluoranthene	2000	2.6E+07	5,000	1800 U	370 U	400 UJ	400 U	400 U	450 U	390 U
Benzo(k)fluoranthene	2.3E+04	2.6E+08	4.9E+04	1800 U	370 U	400 U	400 U	400 U	450 U	390 U
Benzo(ghi)perylene	1.7E+07	--	4.6E+07	1600 J	370 U	400 U	400 U	400 U	450 U	390 U
Benzo(a)pyrene	200	2.6E+06	8,000	1000 J	370 U	400 U	400 U	400 U	450 U	390 U
bis(2-Chloroethoxy)methane	--	--	--	1800 U	370 U	400 U	400 U	400 U	450 U	390 U
bis(2-Chloroethyl) ether	2000	400	0.4	1800 U	370 U	400 U	400 U	400 U	450 U	390 U
bis(2-Ethylhexyl)phthalate	1.4E+05	1.0E+09	3.6E+06	1800 U	1600 U	400 UJ	1400 U	400 U	450 U	390 U
4-Bromophenyl phenyl ether	--	--	--	1800 U	370 U	400 U	400 U	400 U	450 U	390 U
Butyl benzyl phthalate	1.4E+08	--	9.3E+05	1800 U	370 U	400 U	400 U	400 U	450 U	390 UJ
Carbazole	9.6E+04	9.4E+08	600	1800 U	370 U	400 U	400 U	400 U	450 U	390 U
4-Chloroaniline	2.7E+06	--	700	1800 U	370 U	400 U	400 U	400 U	450 U	390 U
p-Chloro-m-cresol	--	--	--	1800 U	370 U	400 U	400 U	400 U	450 U	390 U
2-Chloronaphthalene	8.2E+07	--	--	1800 U	370 U	400 U	400 U	400 U	450 U	390 U
2-Chlorophenol	3.4E+06	--	4,000	1800 U	370 U	400 U	400 U	400 U	450 U	390 U
4-Chlorophenyl phenyl ether	--	--	--	1800 U	370 U	400 U	400 U	400 U	450 U	390 U
Chrysene	2.3E+05	1.0E+09	1.6E+05	2300	370 U	400 U	400 U	400 U	450 U	650
Dibenzo(a,h)anthracene	200	--	2,000	1800 U	370 U	400 U	400 U	400 U	450 U	390 U
Dibenzofuran	2.0E+06	1.3E+07	3.3E+04	1800 U	370 U	400 U	400 U	400 U	450 U	390 U
Di-n-butyl phthalate	6.8E+07	1.0E+09	2.3E+06	1800 U	370 U	400 U	400 U	400 U	450 U	390 U
1,2-Dichlorobenzene	6.2E+07	6.0E+05	1.7E+04	1800 U	370 U	400 U	400 U	400 U	450 U	390 U
1,3-Dichlorobenzene	3.1E+06	--	--	1800 U	370 U	400 U	400 U	400 U	450 U	390 U
1,4-Dichlorobenzene	8.0E+04	--	2,000	1800 U	370 U	400 U	400 U	400 U	450 U	390 U
3,3'-Dichlorobenzidine	4,000	--	7	1800 U	370 UJ	400 UJ	400 UJ	400 U	450 U	390 U

Table 5-72
 Base Neutral/Acid Extractable Compound Concentrations in Subsurface Soil
 SCYI RFI
 East API Separator (SWMU 3)
 (Page 2 of 3)

Sample ID	Soil Ingestion/ Dermal RBSL ¹	Inhalation RBSL ²	Migration to Groundwater RBSL ³	3-01(3.5-4)	3-03(3-3.5)	3-03(8-8.5)	3-07(8-8.5)	03-08(3.0-3.5)	03-08(8.0-8.5)	BQV510
Lab ID	BQV501	BQV501	BQV501	BQV501	BQV501	BQV501	BQV509	BQV509	BQV509	BQV510
Sample Date	2-Jul-96	2-Jul-96	2-Jul-96	3-Jul-96	3-Jul-96	3-Jul-96	9-Jul-96	21-Jun-96	21-Jun-96	10-Jul-96
BNAs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)										
2,4-Dichlorophenol	2.1E+06	--	1,000	1800 U	370 U	400 U	400 U	400 U	450 U	390 U
Diethyl phthalate	5.5E+08	--	4.7E+05	1800 U	370 U	400 U	400 U	400 U	450 U	390 U
Dimethyl phthalate	1.0E+10	--	--	1800 U	370 U	400 U	400 U	400 U	450 U	390 U
2,4-Dimethylphenol	1.4E+07	--	9,000	1800 U	370 U	400 U	400 U	400 U	450 U	390 U
4,6-Dinitro-o-cresol	1.0E+05	--	--	4400 U	890 U	960 U	960 U	960 U	1100 U	950 U
2,4-Dinitrophenol	1.4E+06	--	200	4400 UJ	890 UJ	960 UJ	960 UJ	960 U	1100 U	950 UJ
2,4-Dinitrotoluene	2.0E+06	--	0.8	1800 U	370 U	400 U	400 U	400 U	450 U	390 U
2,6-Dinitrotoluene	1.0E+06	--	0.7	1800 U	370 U	400 U	400 U	400 U	450 U	390 U
Di-n-octyl phthalate	1.4E+07	--	1.0E+07	1800 U	370 U	400 U	400 U	400 U	450 U	390 U
Fluoranthene	2.4E+07	1.0E+09	4.3E+06	1800 U	370 U	400 U	400 U	400 U	450 U	390 U
Fluorene	2.4E+07	7.4E+07	5.6E+05	1800 U	370 U	400 U	400 U	400 U	450 U	500
Hexachlorobenzene	1,000	2,000	2,000	1800 U	370 U	400 U	400 U	400 U	450 U	390 U
Hexachlorobutadiene	2.5E+04	1.3E+04	2,000	1800 U	370 U	400 U	400 U	400 U	450 U	390 U
Hexachlorocyclopentadiene	4.1E+06	4.1E+04	4.0E+05	1800 U	370 UJ	400 UJ	400 UJ	400 U	450 U	390 UJ
Hexachloroethane	1.4E+05	9.2E+04	500	1800 U	370 U	400 U	400 U	400 U	450 U	390 U
Indeno(1,2,3-c,d)pyrene	2,000	2.6E+07	1.4E+04	1800 U	370 U	400 U	400 U	400 U	450 U	390 U
Isophorone	2.0E+06	--	500	1800 U	370 U	400 U	400 U	400 U	450 U	390 U
2-Methylnaphthalene	4.1E+06	--	1.7E+04	1800 U	370 U	400 U	400 U	130 J	160 J	450
2-Methylphenol	3.4E+07	--	1.5E+04	1800 U	370 U	400 U	400 UJ	400 UJ	450 UJ	390 U
4-Methylphenol	5.1E+06	--	--	1800 U	370 U	400 U	400 U	400 U	450 U	390 U
N-Nitrosodiphenylamine	3.9E+05	--	1,000	1800 U	370 U	400 U	400 U	400 U	450 U	390 U
N-Nitrosodi-n-propylamine	200	--	0.05	1800 U	370 U	400 U	400 U	400 U	450 U	390 U
Naphthalene	1.2E+07	2.4E+05	8.4E+04	1800 U	370 U	400 U	400 U	40 J	49 J	390 U
2-Nitroaniline	3.1E+06	--	--	4400 U	890 U	960 U	960 U	960 U	1100 U	950 U
3-Nitroaniline	1.4E+05	--	--	4400 U	890 U	960 U	960 U	960 U	1100 U	950 U
4-Nitroaniline	1.4E+05	--	--	4400 UJ	890 UJ	960 UJ	960 UJ	960 U	1100 U	950 UJ
Nitrobenzene	3.4E+05	1.3E+05	100	1800 U	370 U	400 U	400 U	400 U	450 U	390 U

Table 5-72
Base Neutral/Acid Extractable Compound Concentrations in Subsurface Soil

SCYI RFI
 East API Separator (SWMU 3)
 (Page 3 of 3)

Sample ID	Soil Ingestion/ Dermal RBSL ¹	Inhalation RBSL ²	Migration to Groundwater RBSL ³	3-01(3.5-4)	3-03(3-3.5)	3-03(8-8.5)	3-07(8-8.5)	03-08(3.0-3.5)	03-08(8.0-8.5)	3-09(10-10.5)
Lab ID				BQV501	BQO885	BQO880	BQV509	BQO813	BQO811	BQV510
Sample Date				2-Jul-96	3-Jul-96	3-Jul-96	9-Jul-96	21-Jun-96	21-Jun-96	10-Jul-96
BNAs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)										
2-Nitrophenol	--	--	--	1800 U	370 U	400 U	400 U	400 U	450 U	390 U
4-Nitrophenol	--	--	--	4400 UJ	890 UJ	960 UJ	960 UJ	960 U	1100 U	950 UJ
2,2'-oxybis(1-chloropropane)	4.1E+04	--	--	1800 UJ	370 U	400 U	400 U	400 U	450 U	390 U
Pentachlorophenol	1.0E+04	--	30	4400 UJ	890 U	960 U	960 U	960 U	1100 U	950 U
Phenanthrene	1.7E+07	--	4.2E+05	770 J	370 U	400 U	400 U	400 U	450 U	1300
Phenol	2.1E+08	1.0E+09	1.0E+05	1800 U	370 U	400 U	400 U	400 U	450 U	390 U
Pyrene	1.8E+07	5.8E+08	4.2E+06	2600	370 U	400 U	400 UJ	400 U	450 U	390 UJ
1,2,4-Trichlorobenzene	6.8E+06	3.2E+06	5,000	1800 U	370 U	400 U	400 U	400 U	450 U	390 U
2,4,5-Trichlorophenol	6.8E+07	--	2.7E+05	4400 U	890 U	960 U	960 U	960 U	1100 U	950 U
2,4,6-Trichlorophenol	1.7E+05	3.4E+05	200	1800 U	370 U	400 U	400 U	400 U	450 U	390 U

Any values exceeding RBSLs are shown shaded.

U - compound was analyzed for but not detected at the concentration shown

-- not available

J - estimated value

Notes:

1. RBSLs for soil ingestion/dermal contact are the lower of EPA industrial SSLs (EPA, 2002), shown in italics, and EPA Region 3 (Oct 2004) industrial soil ingestion risk-based concentrations (RBCs), shown in standard font, except for benzo(ghi)perylene and phenanthrene, which are derived from TNRCC (March 2004).
2. RBSLs for inhalation of volatiles in outdoor air are from EPA (2002).
3. RBSLs for migration to groundwater are from EPA (2002) for a DAF of 20, except for benzo(ghi)perylene, dibenzofuran, 2-methylnaphthalene, and phenanthrene, which are from TNRCC (March 2004).
4. A detailed discussion concerning selection of RBSLs is provided in Section 5.1.2 of the report

Table 5-73
Metal Concentrations in Surface Soil
SCYI RFI
East API Separator (SWMU 3)
(Page 1 of 1)

Sample ID Lab ID	Soil Ingestion/ Dermal RBSL ¹	Inhalation RBSL ²	Migration to Groundwater RBSL ³	Background Level	3-03(1.5-2) BQO886 3-Jul-96	03-08(0.5-1.0) BQO815 21-Jun-96
Metals (Reporting units are in mg/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)						
Antimony	410	--	5	9.2	7.3 UJ	7.6 U
Arsenic	1.9	770	29	8.7	2.5 J	2.5 J
Barium	7.2E+04	1.0E+06	1,600	183	98.4	50.6
Beryllium	2,000	2,600	63	0.4	0.18 B	0.19 B
Cadmium	900	3,400	8	0.8	0.4 U	0.41 U
Chromium	3,100	510	38	31	23	3.9
Cobalt	2.0E+04	1900	1300	17	4 B	5.3 B
Lead	400	--	--	32	37.5	1.7 J
Mercury	340	14	2	1.7	0.17	0.05 U
Nickel	2.0E+04	2.6E+04	130	28	14.9	1.4 B
Selenium	5,100	--	5	2.2	0.79 UJ	0.81 UJ
Vanadium	1,000	--	6,000	139	44.1 J	44.6

Any values exceeding RBSLs are shown shaded.

U - compound was analyzed for but not detected at the listed concentration

J - estimated based on data validation

B - concentration is between the instrument detection limit (IDL) and contract required detection limit (CDRL). Detections may be the result of instrument noise and other lab artifacts, especially near the IDL.

-- not available

Notes:

1. RBSLs for soil ingestion/dermal contact are the lower of EPA industrial SSLs (EPA, 2002), shown in italics, and EPA Region 3 (Oct 2004) industrial soil ingestion risk-based concentrations, shown in standard font.
2. RBSLs for inhalation of particulates or vapor in outdoor air are from EPA (2002).
3. RBSLs for migration to groundwater are from EPA (2002) for a DAF of 20.

Table 5-74
Metal Concentrations in Subsurface Soil
SCYI RFI
East API Separator (SWMU 3)
(Page 1 of 2)

Sample ID Lab ID	Soil Ingestion/ Dermal	Inhalation RBSL ²	Migration to Groundwater	Background Level	3-01(3.5-4) BQV501 2-Jul-96	3-03(3-3.5) BQO885 3-Jul-96	3-03(8-8.5) BQO880 3-Jul-96	3-07(8-8.5) BQV509 9-Jul-96	03-08(3.0-3.5) BQO813 21-Jun-96	03-08(8.0-8.5) BQO811 21-Jun-96
Sample Date	RBSL ¹	RBSL ²	RBSL ³							
Metals (Reporting units are in mg/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)										
Antimony	410	--	5	9.2	7.4 UJ	7.4 UJ	8.3 UJ	8 UJ	8.1 U	9.1 U
Arsenic	1.9	770	29	8.7	4.4	0.93 B	1.2 BJ	1.1 B	0.94 BJ	0.95 UJ
Barium	7.2E+04	1.0E+06	1,600	183	32.5 B	91.4	180	103	102	263
Beryllium	2,000	2,600	63	0.4	0.13 B	0.23 B	0.42 B	0.11 B	0.28 B	0.53 B
Cadmium	900	3,400	8	0.8	0.4 U	0.4 U	0.45 U	0.43 U	0.43 U	0.49 U
Chromium	3,100	510	38	31	3.6	0.97 B	0.92 U	1.6 B	6.5	5.1
Cobalt	2.0E+04	1900	1300	17	3.3 B	8 B	13.4	7.4 B	8.6 B	22.4
Lead	400	--	--	32	1.3 J	2.9	1.9	3.1	1.9 J	3.6 J
Mercury	340	14	2	1.7	0.04 U	0.04 U	0.05 U	0.05 B	0.05 U	0.05 B
Nickel	2.0E+04	2.6E+04	130	28	1.5 B	1.3 U	2 B	1.4 U	3.2 B	4.3 B
Selenium	5,100	--	5	2.2	0.8 U	0.8 U	0.9 U	0.87 U	0.87 U	0.98 UJ
Vanadium	1,000	--	6,000	139	30.1 J	32 J	77.8	30.9 J	66.8	119

Any values exceeding RBSLs are shown shaded.

U - compound was analyzed for but not detected at the listed concentration

J - estimated based on data validation

B - concentration is between the instrument detection limit (IDL) and contract required detection limit (CDRL). Detections may be the result of instrument noise and other lab artifacts, especially near the IDL.

-- not available

Notes:

1. RBSLs for soil ingestion/dermal contact are the lower of EPA industrial SSLs (EPA, 2002), shown in italics, and EPA Region 3 (Oct 2004) industrial soil ingestion risk-based concentrations, shown in standard font.
2. RBSLs for inhalation of particulates or vapor in outdoor air are from EPA (2002).
3. RBSLs for migration to groundwater are from EPA (2002) for a DAF of 20.

Table 5-74
 Metal Concentrations in Subsurface Soil
 SCYI RFI
 East API Separator (SWMU 3)
 (Page 2 of 2)

Sample ID	Soil Ingestion/ Dermal	Inhalation RBSL ²	Migration to Groundwater	Background Level	3-09(10-10.5) BQV510
Lab ID	RBSL ¹	RBSL ²	RBSL ³	Level	10-Jul-96
Sample Date	RBSL ¹	RBSL ²	RBSL ³		
Metals (Reporting units are in mg/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)					
Antimony	410	--	5	9.2	8 UJ
Arsenic	1.9	770	29	8.7	0.84 UJ
Barium	7.2E+04	1.0E+06	1,600	183	114
Beryllium	2,000	2,600	63	0.4	0.18 B
Cadmium	900	3,400	8	0.8	0.43 U
Chromium	3,100	510	38	31	2.6
Cobalt	2.0E+04	1900	1300	17	11 B
Lead	400	--	--	32	6
Mercury	340	14	2	1.7	0.08 B
Nickel	2.0E+04	2.6E+04	130	28	2.6 B
Selenium	5,100	--	5	2.2	0.86 U
Vanadium	1,000	--	6,000	139	60.2

Any values exceeding RBSLs are shown shaded.

U - compound was analyzed for but not detected at the listed concentration
 J - estimated based on data validation
 B - concentration is between the instrument detection limit (IDL) and contract required detection limit (CDRL). Detections may be the result of instrument noise and other lab artifacts, especially near the IDL.
 -- not available

- Notes:
1. RBSLs for soil ingestion/dermal contact are the lower of EPA industrial SSLs (EPA, 2002), shown in italics, and EPA Region 3 (Oct 2004) industrial soil ingestion risk-based concentrations, shown in standard font.
 2. RBSLs for inhalation of particulates or vapor in outdoor air are from EPA (2002).
 3. RBSLs for migration to groundwater are from EPA (2002) for a DAF of 20.

Table 5-75
Volatile Organic Compound Concentrations in Groundwater

East API Separator (SWMU 3)
SCYI RFI
(Page 1 of 1)

Well ID	MCL or RBSL ¹	3-10A	3-07	3-10A	3-10B	3-11
Lab ID		BRO809	BTW506	N37144-22A	N36548-3	N36348-5
Sample Date		26-Aug-96	6-Feb-97	16-Apr-03	7-Apr-03	4-Apr-03
VOCs (Reporting units are in ug/L)						
Acetone	5500	10 U	10 U	5 U	5 U	5 U
Benzene	5	10 U	10 U	1 U	1 U	1 U
Bromodichloromethane	80	10 U	10 U	1 U	1 U	1 U
Bromoform	80	10 U	10 U	4 U	1 U	1 U
Bromomethane	8.5	10 U	10 U	2 U	1 U	1 U
2-Butanone	7000	10 U	10 U	5 U	5 U	5 U
Carbon disulfide	1000	10 U	10 U	2 U	4	14 D
Carbon tetrachloride	5	10 U	10 U	1 U	1 U	1 U
Chlorobenzene	100	10 U	10 U	1 U	1 U	1 U
Chloroethane	3.6	10 U	10 U	1 U	1 U	1 U
Chloroform	80	10 U	10 U	1 U	1 U	1 U
Chloromethane	190	10 U	10 U	1 U	1 U	1 U
Dibromochloromethane	80	10 U	10 U	1 U	1 U	1 U
1,1-Dichloroethane	800	10 U	10 U	1 U	1 U	1 U
1,2-Dichloroethane	5	10 U	10 U	1 U	1 U	1 U
1,1-Dichloroethene	7	10 U	10 U	1 U	1 U	1 U
1,2-Dichloroethene (total)	70	10 U	10 U	5 U	1 U	1 U
1,2-Dichloropropane	5	10 U	10 U	2 U	1 U	1 U
cis-1,3-Dichloropropene	0.44	10 U	10 U	5 U	1 U	1 U
trans-1,3-Dichloropropene	0.44	10 U	10 U	1 U	1 U	1 U
Ethylbenzene	700	10 U	10 U	1 U	1 U	1 U
2-Hexanone	--	10 U	10 U	5 U	5 U	5 U
Methylene chloride	5	10 U	10 U	2 U	2 U	2 U
4-Methyl-2-Pentanone	6300	10 U	10 U	5 U	5 U	5 U
Styrene	100	10 U	10 U	5 U	1 U	1 U
1,1,2,2-Tetrachloroethane	0.053	10 U	10 U	1 U	1 U	1 U
Tetrachloroethene	5	10 U	10 U	1 U	1 U	1 U
Toluene	1000	10 U	10 U	1 U	1 U	1 U
1,1,1-Trichloroethane	200	10 U	10 U	1 U	1 U	1 U
1,1,1,2-Trichloroethane	5	10 U	10 U	1 U	1 U	1 U
Trichloroethene	5	10 U	10 U	1 U	1 U	1 U
Vinyl chloride	2	10 U	10 U	1 U	1 U	1 U
Xylene (total)	1.0E+04	10 U	10 U	1 U	1 U	1 U

Any results that exceed MCLs or RBSLs are shown bolded and shaded.

U - compound was analyzed for, but not detected at the concentration shown. J - estimated value. D - analyzed at a secondary dilution factor -- not available

Notes:

1. EPA Maximum Contaminant Levels (MCLs) are shown in bold. For compounds without MCLs, EPA Region 3 risk-based screening levels for tap water (Oct 2004) are shown in italics.
2. A detailed discussion concerning selection of screening levels is provided in Section 5.1.2 of this report.

Table 5-76
 Base Neutral/Acid Extractable Compound Concentrations in Groundwater
 SCYI RFI
 East API Separator (SWMU 3)
 (Page 1 of 3)

Well ID	MCL	3-10A	3-11
Lab ID	or RBSL ¹	BRO809	N36348-5R
Sample Date		26-Aug-96	4-Apr-03
BNAs (Reporting units are in ug/L)			
Acenaphthene	370	11 U	2.1 U
Acenaphthylene	1,500	11 U	2.1 U
Anthracene	1,800	11 U	2.1 U
Benzo(a)anthracene	0.092	11 U	2.1 U
Benzo(b)fluoranthene	0.092	11 U	2.1 U
Benzo(k)fluoranthene	0.92	11 U	2.1 U
Benzo(ghi)perylene	73	11 U	2.1 U
Benzo(a)pyrene	0.2	11 U	2.1 U
bis(2-Chloroethoxy)methane	--	11 U	2.1 U
bis(2-Chloroethyl) ether	0.0096	11 U	2.1 U
bis(2-Ethylhexyl)phthalate	6	11 U	2.1 U
4-Bromophenyl phenyl ether	--	11 U	2.1 U
Butyl benzyl phthalate	7,300	11 U	2.1 U
Carbazole	3.3	11 U	2.1 U
4-Chloroaniline	150	11 U	5.3 U
p-Chloro-m-cresol	--	11 U	5.3 U
2-Chloronaphthalene	490	11 U	5.3 U
2-Chlorophenol	30	11 U	5.3 U
4-Chlorophenyl phenyl ether	--	11 U	2.1 U
Chrysene	9.2	11 U	2.1 U
Dibenzo(a,h)anthracene	0.0092	11 U	2.1 U
Dibenzofuran	12	11 U	5.3 U
Di-n-butyl phthalate	3,700	11 U	2.1 U
1,2-Dichlorobenzene	600	11 U	2.1 U
1,3-Dichlorobenzene	18	11 U	2.1 U
1,4-Dichlorobenzene	75	11 U	2.1 U
3,3'-Dichlorobenzidine	0.15	11 UJ	5.3 U

Table 5-76
 Base Neutral/Acid Extractable Compound Concentrations in Groundwater
 SCYI RFI
 East API Separator (SWMU 3)
 (Page 2 of 3)

Well ID	MCL	3-10A	3-11
Lab ID	or RBSL ¹	BRO809	N36348-5R
Sample Date		26-Aug-96	4-Apr-03
BNAs (Reporting units are in ug/L)			
2,4-Dichlorophenol	110	11 U	5.3 U
Diethyl phthalate	2.9E+04	11 U	2.1 U
Dimethyl phthalate	3.7E+05	11 U	2.1 U
2,4-Dimethylphenol	730	11 U	5.3 U
4,6-Dinitro-o-cresol	3.7	28 U	21 U
2,4-Dinitrophenol	73	28 U	21 U
2,4-Dinitrotoluene	73	11 U	2.1 U
2,6-Dinitrotoluene	37	11 U	2.1 U
Di-n-octyl phthalate	1,500	11 U	2.1 U
Fluoranthene	1,500	11 U	2.1 U
Fluorene	240	11 U	2.1 U
Hexachlorobenzene	1	11 U	2.1 U
Hexachlorobutadiene	0.86	11 U	2.1 U
Hexachlorocyclopentadiene	50	11 U	21 U
Hexachloroethane	4.8	11 U	5.3 U
Indeno(1,2,3-c,d)pyrene	0.092	11 U	2.1 U
Isophorone	70	11 U	2.1 U
2-Methylnaphthalene	24	11 U	2.1 U
2-Methylphenol	1,800	11 U	5.3 U
4-Methylphenol	180	11 U	5.3 U
N-Nitrosodiphenylamine	14	11 U	5.3 U
N-Nitrosodi-n-propylamine	0.0096	11 U	2.1 U
Naphthalene	6.5	11 U	2.1 U
2-Nitroaniline	110	28 U	5.3 U
3-Nitroaniline	3.3	28 U	5.3 U
4-Nitroaniline	3.3	28 UJ	5.3 U
Nitrobenzene	3.5	11 U	2.1 U

Table 5-76
Base Neutral/Acid Extractable Compound Concentrations in Groundwater
 SCYI RFI
 East API Separator (SWMU 3)
 (Page 3 of 3)

Well ID	MCL	3-10A	3-11
Lab ID	or RBSL ¹	BRO809	N36348-5R
Sample Date		26-Aug-96	4-Apr-03
BNAs (Reporting units are in ug/L)			
2-Nitrophenol	--	11 U	5.3 U
4-Nitrophenol	--	28 U	21 U
2,2'-oxybis(1-chloropropane)	--	11 UJ	2.1 U
Pentachlorophenol	1	28 U	21 U
Phenanthrene	73	11 U	2.1 U
Phenol	<i>1.1E+04</i>	11 U	5.3 U
Pyrene	180	11 U	2.1 U
1,2,4-Trichlorobenzene	70	11 U	2.1 U
2,4,5-Trichlorophenol	3,700	28 U	5.3 U
2,4,6-Trichlorophenol	6.1	11 U	5.3 U

Any results that exceed MCLs or RBSLs are shown bolded and shaded.

U - compound was analyzed for, but not detected at the concentration shown.

J - estimated value.

-- not available

Notes:

1. EPA Maximum Contaminant Levels (MCLs) are shown in bold. For compounds without MCLs, EPA Region 3 risk-based screening levels for tap water (Oct 2004) are shown in italics. RBSLs for acenaphthylene, benzo(ghi)perylene, and phenanthrene are from TNRCC (2004).
2. A detailed discussion concerning selection of screening levels is provided in Section 5.1.2 of this report.

Table 5-77
Metal Concentrations in Groundwater
 SCYI RFI
 East API Separator (SWMU 3)
 (Page 1 of 1)

Well ID	MCL	3-10A	3-11	3-11
Lab ID	or RBSL ¹	BRO809	N36348-5	N36348-5A
Sample Date		26-Aug-96	4-Apr-03	4-Apr-03
		Dissolved	Total	Dissolved
Metals (Reporting units are in ug/L)				
Antimony	6	33.4 U	2.3 U	2.3 U
Arsenic	10	5.2 U	2.7 U	2.9 B
Barium	2000	541	64.0 B	74.0 B
Beryllium	4	0.2 U	0.10 U	0.10 U
Cadmium	5	2 BJ	0.30 U	0.30 U
Chromium	100	3.7 U	0.40 U	0.40 U
Cobalt	730	3.7 U	0.60 U	0.60 U
Lead	15	2.7 U	1.9 U	1.9 U
Mercury	2	0.1 U	0.20 B	0.11 B
Nickel	730	7.6 B	1.6 B	2.5 B
Selenium	50	4.7 U	3.6 U	3.6 U
Vanadium	37	2.8 U	1.0 U	1.0 U

Any results that exceed MCLs or RBSLs are shown bolded and shaded.

U - compound was analyzed for but not detected at the concentration shown

J - estimated based on data validation

B - concentration is between the instrument detection limit (IDL) and contract required detection limit (CRDL). Detections may be the result of instrument noise and other lab artifacts, especially near the IDL.

Notes:

1. EPA Maximum Contaminant Levels (MCLs) are shown in bold. For compounds without MCLs, EPA Region 3 risk-based screening levels (RBCs) for tap water (Oct 2004) are shown in italics.
2. EPA Region 3 tap water RBCs are less than MCLs for all detected constituents, except for arsenic, which has a Region 3 RBC of 0.045 ug/L.
3. A detailed discussion concerning selection of screening levels is provided in Section 5.1.2 of this report.

Table 5-78
Immunoassay Field Screening Results
SCYI RFI
East API Separator (SWMU 3)
(Page 1 of 1)

Sample Location	Depth (ft)									BTEX									PAH												
	0.5-1.0	1.0-1.5	1.5-2.0	3.0-3.5	3.5-4.0	4.0-4.5	5.5-6.0	7.5-8.0	8.0-8.5	10-10.5	0.5-1.0	1.0-1.5	1.5-2.0	3.0-3.5	3.5-4.0	4.0-4.5	5.5-6.0	7.5-8.0	8.0-8.5	10-10.5	0.5-1.0	1.0-1.5	1.5-2.0	3.0-3.5	3.5-4.0	4.0-4.5	5.5-6.0	7.5-8.0	8.0-8.5	10-10.5	
3-01	ND	ND	6	ND	ND	> 35																									
3-02				ND		ND		ND																							
3-03				ND																											
3-04	ND			ND		ND																									
3-05	ND			ND																											
3-06	ND			ND																											
3-07				ND																											
3-08				ND																											
3-09				ND																											

Notes:

1. All immunoassay concentrations are in ppm.
2. ND means non-detect. The detection limit was 2.5 ppm for BTEX and 0.6 ppm for PAHs.
3. A blank box denotes not a sampled depth.
4. Bolded boxes indicate concentrations above site screening levels of 2.5 ppm for BTEX and 5 ppm for PAHs. Concentrations above site screening levels may also be due to cross-reactivity to non-target constituents.

Table 5-79
Summary of Free Product Apparent Thickness
SCYI RFI
East API Separator (SWMU 3)
(Page 1 of 1)

Thickness measurements are in feet

Date	Well	03-07	03-09	03-10
31-Aug-96		none	0.77	none
28-Jan-97		none	--	none
3-Feb-97		--	0.39	--

-- not available

Table 5-80
 Volatile Organic Compound Concentrations in Surface Soil
 SCYI RFI
 Watery Oil Separator (SWMU 43)
 (Page 1 of 1)

Sample ID	Soil Ingestion/ Dermal RBSL ¹	Inhalation RBSL ²	Migration to Groundwater RBSL ³	43-03(0.5-1.0) BQ0897 26-Jun-96
VOCs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)				
Acetone	1.1E+08	5.8E+07	1.6E+04	270 J
Benzene	5.2E+04	800	30	23 UJ
Bromodichloromethane	4.6E+04	--	600	23 UJ
Bromoform	3.6E+05	8.8E+04	800	23 UJ
Bromomethane	1.4E+06	1.3E+04	200	23 UJ
2-Butanone	6.1E+08	1.4E+08	2.9E+04	23 UJ
Carbon disulfide	1.0E+08	7.2E+05	3.2E+04	23 UJ
Carbon tetrachloride	2.2E+04	300	70	23 UJ
Chlorobenzene	2.0E+07	5.4E+05	1000	23 UJ
Chloroethane	3.4E+04	--	400	23 UJ
Chloroform	9.9E+05	--	6.00E+02	23 UJ
Chloromethane	1.0E+07	300	600	23 UJ
Dibromochloromethane	--	--	--	23 UJ
1,1-Dichloroethane	1.0E+08	1.7E+06	2.3E+04	23 UJ
1,2-Dichloroethane	3.1E+04	600	20	23 UJ
1,1-Dichloroethene	5.1E+07	4.1E+05	60	23 UJ
1,2-Dichloroethene (total)	9.2E+06	1.5E+05	400	23 UJ
1,2-Dichloropropane	4.2E+04	2.1E+04	30	23 UJ
cis-1,3-Dichloropropene	2.9E+04	--	4	23 UJ
trans-1,3-Dichloropropene	2.9E+04	--	4	23 UJ
Ethylbenzene	1.0E+08	4.0E+05	1.3E+04	23 UJ
2-Hexanone	--	--	--	23 UJ
Methylene chloride	3.8E+05	2.2E+04	20	20 J
4-Methyl-2-Pentanone	--	--	--	23 UJ
Styrene	2.0E+08	1.5E+06	4000	23 UJ
1,1,2,2-Tetrachloroethane	1.4E+04	1000	3	23 UJ
Tetrachloroethene	5300	2000	60	23 UJ
Toluene	2.0E+08	6.5E+05	1.2E+04	23 UJ
1,1,1-Trichloroethane	2.9E+08	1.2E+06	2000	23 UJ
1,1,2-Trichloroethane	5.0E+04	2000	20	23 UJ
Trichloroethene	7200	100	60	23 UJ
Vinyl chloride	4000	1000	10	23 UJ
Xylene (total)	1.0E+09	9.0E+05	1.9E+05	23 UJ

Any values exceeding RBSLs are shown shaded.
 U - compound was analyzed for but not detected at the concentration shown D - analyzed at a secondary dilution factor J - estimated value -- not available

Notes:
 1. RBSLs for soil ingestion/dermal contact are the lower of EPA industrial SSLs (EPA, 2002), shown in italics, and EPA Region 3 (Oct 2004) industrial soil ingestion risk-based concentrations, shown in standard for
 2. RBSLs for inhalation of volatiles in outdoor air are from EPA (2002), except for acetone and 2-butanone, which are from EPA Region 9 PRGs (Oct 2004).
 3. RBSLs for migration to groundwater are from EPA (2002) for a DAF of 20, except for 2-butanone, which is from TNRCC (March 2004).
 4. A detailed discussion concerning selection of RBSLs is provided in Section 5.1.2 of the report.

Table 5-81
Volatile Organic Compound Concentrations in Subsurface Soil
SCYI RFI
Watery Oil Separator (SWMU 43)
 (Page 1 of 1)

Sample ID	Soil Ingestion/ Dermal	Inhalation	Migration to Groundwater	43-01(6-6.5)	43-01(6-6.5)	43-03(3-3.5)	43-03(7-7.5)
Lab ID	RBSL ¹	RBSL ²	RBSL ³	BQV526	BQV527	BQO896	BQO898
Sample Date	RBSL ¹	RBSL ²	RBSL ³	16-Jul-96	16-Jul-96	26-Jun-96	26-Jun-96
VOCs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)							
Acetone	1.1E+08	5.8E+07	1.6E+04	34 U	68 U	170 J	390 J
Benzene	5.2E+04	800	30	22 U	11 U	11 UJ	27 UJ
Bromodichloromethane	4.6E+04	--	600	22 U	11 U	11 UJ	27 UJ
Bromoform	3.6E+05	8.8E+04	800	22 UJ	11 U	11 UJ	27 UJ
Bromomethane	1.4E+06	1.3E+04	200	22 U	11 U	11 UJ	27 UJ
2-Butanone	6.1E+08	1.4E+08	2.9E+04	22 UJ	11 UJ	24 J	32 J
Carbon disulfide	1.0E+08	7.2E+05	3.2E+04	22 U	11 U	11 UJ	27 UJ
Carbon tetrachloride	2.2E+04	300	70	22 U	11 U	11 UJ	27 UJ
Chlorobenzene	2.0E+07	5.4E+05	1000	22 UJ	11 U	11 UJ	27 UJ
Chloroethane	3.4E+04	--	400	22 U	11 U	11 UJ	27 UJ
Chloroform	9.9E+05	--	6.00E+02	22 U	11 U	11 UJ	27 UJ
Chloromethane	1.0E+07	300	600	22 U	11 U	11 UJ	27 UJ
Dibromochloromethane	--	--	--	22 UJ	11 U	11 UJ	27 UJ
1,1-Dichloroethane	1.0E+08	1.7E+06	2.3E+04	22 U	11 U	11 UJ	27 UJ
1,2-Dichloroethane	3.1E+04	600	20	22 U	11 U	11 UJ	27 UJ
1,1-Dichloroethene	5.1E+07	4.1E+05	60	22 U	11 U	11 UJ	27 UJ
1,2-Dichloroethene (total)	9.2E+06	1.5E+05	400	22 U	11 U	11 UJ	27 UJ
1,2-Dichloropropane	4.2E+04	2.1E+04	30	22 U	11 U	11 UJ	27 UJ
cis-1,3-Dichloropropene	2.9E+04	--	4	22 U	11 U	11 UJ	27 UJ
trans-1,3-Dichloropropene	2.9E+04	--	4	22 UJ	11 U	11 UJ	27 UJ
Ethylbenzene	1.0E+08	4.0E+05	1.3E+04	22 UJ	11 U	11 UJ	27 UJ
2-Hexanone	--	--	--	22 UJ	11 UJ	11 UJ	27 UJ
Methylene chloride	3.8E+05	2.2E+04	20	22 U	11 U	7 J	23 J
4-Methyl-2-Pentanone	--	--	--	22 UJ	11 U	11 UJ	27 UJ
Styrene	2.0E+08	1.5E+06	4000	22 UJ	11 U	11 UJ	27 UJ
1,1,2,2-Tetrachloroethane	1.4E+04	1000	3	22 UJ	11 U	11 UJ	27 UJ
Tetrachloroethene	5300	2000	60	22 UJ	11 U	11 UJ	27 UJ
Toluene	2.0E+08	6.5E+05	1.2E+04	22 U	11 U	11 UJ	27 UJ
1,1,1-Trichloroethane	2.9E+08	1.2E+06	2000	22 UJ	11 U	11 UJ	27 UJ
1,1,2-Trichloroethane	5.0E+04	2000	20	22 U	11 U	11 UJ	27 UJ
Trichloroethene	7200	100	60	22 UJ	11 U	11 UJ	27 UJ
Vinyl chloride	4000	1000	10	22 U	11 U	11 UJ	27 UJ
Xylene (total)	1.0E+09	9.0E+05	1.9E+05	22 UJ	11 U	11 UJ	27 UJ

Any values exceeding RBSLs are shown shaded.
 U - compound was analyzed for but not detected at the concentration shown D - analyzed at a secondary dilution factor J - estimated value -- not available

Notes:
 1. RBSLs for soil ingestion/dermal contact are the lower of EPA industrial SSLs (EPA, 2002), shown in italics, and EPA Region 3 (Oct.2004) industrial soil ingestion risk-based concentrations, shown in standard font.
 2. RBSLs for inhalation of volatiles in outdoor air are from EPA (2002), except for acetone and 2-butanone, which are from EPA Region 9 PRGs (Oct 2004).
 3. RBSLs for migration to groundwater are from EPA (2002) for a DAF of 20, except for 2-butanone, which is from TNRCC (March 2004).
 4. A detailed discussion concerning selection of RBSLs is provided in Section 5.1.2 of the report.

Table 5-82
Base Neutral/Acid Extractable Compound Concentrations in Subsurface Soil
SCYI RFI
Watery Oil Separator (SWMU 43)
 (Page 1 of 3)

Sample ID	Soil Ingestion/ Dermal	Inhalation	Migration to Groundwater	43-01(6-6.5)	43-01(6-6.5)	43-03(3-3.5)	43-03(7-7.5)
Lab ID	RBSL ¹	RBSL ²	RBSL ³	BQV526	BQV527	BQO866	BQO867
Sample Date				16-Jul-96	16-Jul-96	26-Jun-96	26-Jun-96
(duplicate)							
BNAs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)							
Acenaphthene	3.7E+07	5.6E+07	5.7E+05	380 U	370 U	360 U	420 U
Acenaphthylene	--	--	--	380 U	370 U	360 U	420 U
Anthracene	1.8E+08	1.0E+09	1.2E+07	380 U	370 U	360 U	420 U
Benzo(a)anthracene	2000	--	2,000	380 U	370 U	360 U	420 U
Benzo(b)fluoranthene	2000	2.6E+07	5,000	380 U	370 U	360 U	420 U
Benzo(k)fluoranthene	2.3E+04	2.6E+08	4.9E+04	380 U	370 U	360 U	420 U
Benzo(ghi)perylene	1.7E+07	--	4.6E+07	380 U	370 U	360 U	420 U
Benzo(a)pyrene	200	2.6E+06	8,000	380 U	370 U	360 U	420 U
bis(2-Chloroethoxy)methane	--	--	--	380 U	370 U	360 U	420 U
bis(2-Chloroethyl) ether	2000	400	0.4	380 U	370 U	360 U	420 U
bis(2-Ethylhexyl)phthalate	1.4E+05	1.0E+09	3.6E+06	380 U	370 U	360 UJ	420 UJ
4-Bromophenyl phenyl ether	--	--	--	380 U	370 U	360 U	420 U
Butyl benzyl phthalate	1.4E+08	--	9.3E+05	380 U	370 U	360 U	420 U
Carbazole	9.6E+04	9.4E+08	600	380 U	370 U	360 U	420 U
4-Chloroaniline	2.7E+06	--	700	380 U	370 U	360 U	420 U
p-Chloro-m-cresol	--	--	--	380 U	370 U	360 U	420 U
2-Chloronaphthalene	8.2E+07	--	--	380 U	370 U	360 U	420 U
2-Chlorophenol	3.4E+06	--	4,000	380 U	370 U	360 U	420 U
4-Chlorophenyl phenyl ether	--	--	--	380 U	370 U	360 U	420 U
Chrysene	2.3E+05	1.0E+09	1.6E+05	380 U	370 U	360 U	420 U
Dibenzo(a,h)anthracene	200	--	2,000	380 U	370 U	360 UJ	420 UJ
Dibenzofuran	2.0E+06	1.3E+07	3.3E+04	380 U	370 U	360 U	420 U
Di-n-butyl phthalate	6.8E+07	1.0E+09	2.3E+06	380 U	370 U	150 J	420 U
1,2-Dichlorobenzene	6.2E+07	6.0E+05	1.7E+04	380 U	370 U	360 U	420 U
1,3-Dichlorobenzene	3.1E+06	--	--	380 U	370 U	360 U	420 U
1,4-Dichlorobenzene	8.0E+04	--	2,000	380 U	370 U	360 U	420 U
3,3'-Dichlorobenzidine	4,000	--	7	380 UJ	370 UJ	360 UJ	420 UJ

Table 5-82
 Base Neutral/Acid Extractable Compound Concentrations in Subsurface Soil
 SCYI RFI
 Watery Oil Separator (SWMU 43)
 (Page 2 of 3)

Sample ID	Soil Ingestion/ Dermal RBSL ¹	Inhalation RBSL ²	Migration to Groundwater RBSL ³	43-01(6-6.5)	43-01(6-6.5)	43-03(3-3.5)	43-03(7-7.5)
Lab ID	BQV526	BQV527	BQV527	BQO866	BQO867		
Sample Date	16-Jul-96	16-Jul-96	16-Jul-96	26-Jun-96	26-Jun-96		
(duplicate)							
BNAs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)							
2,4-Dichlorophenol	2.7E+06	--	1,000	380 U	370 U	360 U	420 U
Diethyl phthalate	5.5E+08	--	4.7E+05	380 U	370 U	360 U	420 U
Dimethyl phthalate	1.0E+10	--	--	380 U	370 U	360 U	420 U
2,4-Dimethylphenol	1.4E+07	--	9,000	380 U	370 U	360 U	420 U
4,6-Dinitro-o-cresol	1.0E+05	--	--	380 U	370 U	870 U	1000 U
2,4-Dinitrophenol	1.4E+06	--	200	920 UJ	910 UJ	870 UJ	1000 UJ
2,4-Dinitrotoluene	2.0E+06	--	0.8	920 U	910 U	360 U	420 U
2,6-Dinitrotoluene	1.0E+06	--	0.7	380 U	370 U	360 U	420 U
Di-n-octyl phthalate	1.4E+07	--	1.0E+07	380 U	370 U	360 UJ	420 UJ
Fluoranthene	2.4E+07	1.0E+09	4.3E+06	380 U	370 U	360 U	420 U
Fluorene	2.4E+07	7.4E+07	5.6E+05	380 U	370 U	360 U	420 U
Hexachlorobenzene	1,000	2,000	2,000	380 U	370 U	360 U	420 U
Hexachlorobutadiene	2.5E+04	1.3E+04	2,000	380 U	370 U	360 U	420 U
Hexachlorocyclopentadiene	4.1E+06	4.1E+04	4.0E+05	380 UJ	370 UJ	360 UJ	420 UJ
Hexachloroethane	1.4E+05	9.2E+04	500	380 U	370 U	360 U	420 U
Indeno(1,2,3-c,d)pyrene	2,000	2.6E+07	1.4E+04	380 U	370 U	360 U	420 U
Isophorone	2.0E+06	--	500	380 U	370 U	360 U	420 U
2-Methylnaphthalene	4.1E+06	--	1.7E+04	380 U	370 U	360 U	420 U
2-Methylphenol	3.4E+07	--	1.5E+04	380 UJ	370 UJ	360 U	420 U
4-Methylphenol	5.1E+06	--	--	380 U	370 U	360 U	420 U
N-Nitrosodiphenylamine	3.9E+05	--	1,000	380 U	370 U	360 U	420 U
N-Nitrosodi-n-propylamine	200	--	0.05	380 U	370 U	360 U	420 U
Naphthalene	1.2E+07	2.4E+05	8.4E+04	380 U	370 U	360 U	420 U
2-Nitroaniline	3.1E+06	--	--	920 U	910 U	870 U	1000 U
3-Nitroaniline	1.4E+05	--	--	920 U	910 U	870 U	1000 U
4-Nitroaniline	1.4E+05	--	--	920 UJ	910 UJ	870 UJ	1000 UJ
Nitrobenzene	3.4E+05	1.3E+05	100	380 U	370 U	360 U	420 U

Table 5-82
Base Neutral/Acid Extractable Compound Concentrations in Subsurface Soil
SCYI RFI
Watery Oil Separator (SWMU 43)
 (Page 3 of 3)

Sample ID	Soil Ingestion/ Dermal	Inhalation	Migration to	43-01(6-6.5)	43-01(6-6.5)	43-03(3-3.5)	43-03(7-7.5)
Lab ID	RBSL ²	RBSL ²	Groundwater	BQV526	BQV527	BQO866	BQO867
Sample Date	RBSL ¹	RBSL ³	RBSL ³	16-Jul-96	16-Jul-96	26-Jun-96	26-Jun-96
				(duplicate)			
BNAs (Reporting units are in ug/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)							
2-Nitrophenol	--	--	--	380 U	370 U	360 U	420 U
4-Nitrophenol	--	--	--	920 UJ	910 UJ	870 UJ	1000 UJ
2,2'-oxybis(1-chloropropane)	4.1E+04	--	--	380 U	370 U	360 UJ	420 UJ
Pentachlorophenol	1.0E+04	--	30	920 U	910 U	870 U	1000 U
Phenanthrene	1.7E+07	--	4.2E+05	380 U	370 U	360 U	420 U
Phenol	2.1E+08	1.0E+09	1.0E+05	380 U	370 U	360 U	420 U
Pyrene	1.8E+07	5.8E+08	4.2E+06	170 J	160 J	360 U	420 U
1,2,4-Trichlorobenzene	6.8E+06	3.2E+06	5,000	380 U	370 U	360 U	420 U
2,4,5-Trichlorophenol	6.8E+07	--	2.7E+05	920 U	910 U	870 U	1000 U
2,4,6-Trichlorophenol	1.7E+05	3.4E+05	200	380 U	370 U	360 U	420 U

Any values exceeding RBSLs are shown shaded.

U - compound was analyzed for but not detected at the concentration shown

-- not available

Notes:

1. RBSLs for soil ingestion/dermal contact are the lower of EPA industrial SSLs (EPA, 2002), shown in italics, and EPA Region 3 (Oct 2004) industrial soil ingestion risk-based concentrations (RBCs), shown in standard font, except for benzo(ghi)perylene and phenanthrene, which are derived from TNRCC (March 2004).
2. RBSLs for inhalation of volatiles in outdoor air are from EPA (2002).
3. RBSLs for migration to groundwater are from EPA (2002) for a DAF of 20, except for benzo(ghi)perylene, dibenzofuran, 2-methylnaphthalene, and phenanthrene, which are from TNRCC (March 2004).
4. A detailed discussion concerning selection of RBSLs is provided in Section 5.1.2 of the report

Table 5-83
Metal Concentrations in Subsurface Soil

SCYI RFI

Watery Oil Separator (SWMU 43)

(Page 1 of 1)

Sample ID	Soil Ingestion/ Dermal RBSL ¹	Inhalation RBSL ²	Migration to Groundwater RBSL ³	Background Level	43-03(3.0-3.5)	43-03(7.0-7.5)	43-01(6-6.5)	43-01(6-6.5)
Lab ID					BQ0866	BQ0867	BQV526	BQV527
Sample Date					26-Jun-96	26-Jun-96	16-Jul-96	16-Jul-96
(duplicate)								
Metals (Reporting units are in mg/kg. Sample depths in feet are shown in parentheses as part of the sample ID.)								
Antimony	410	--	5	9.2	7.3 UJ	9.4 UJ	7.6 UJ	7.6 UJ
Arsenic	1.9	770	29	8.7	-- R	11	5.6 J	4.8 J
Barium	7.2E+04	1.0E+06	1,600	183	21.3 B	30.7 B	18.9 B	20 B
Beryllium	2,000	2,600	63	0.4	0.27 B	0.46 B	0.14 B	0.09 B
Cadmium	900	3,400	8	0.8	0.39 U	0.51 U	0.41 U	0.41 U
Chromium	3,100	510	38	31	1.8 B	4.5	5.4	5.5
Cobalt	2.0E+04	1900	1300	17	1.6 B	3.3 B	3.3 B	2.9 B
Lead	400	--	--	32	0.59 UJ	0.97 J	0.62 UJ	0.61 UJ
Mercury	340	14	2	1.7	0.04 U	0.06 U	0.05 U	0.05 U
Nickel	2.0E+04	2.6E+04	130	28	1.3 U	1.7 U	2.8 B	2.8 B
Selenium	5,100	--	5	2.2	0.79 U	1 UJ	0.82 U	0.82 UJ
Vanadium	1,000	--	6,000	139	15.5	17	23.3	24.4

Any values exceeding RBSLs are shown shaded.

U - compound was analyzed for but not detected at the concentration shown

J - estimated based on data validation

B - concentration is between the instrument detection limit (IDL) and contract required detection limit (CRDL). Detections may be the result of instrument noise and other lab artifacts, especially near the IDL.

R - rejected during data validation

Notes:

1. RBSLs for soil ingestion/dermal contact are the lower of EPA industrial SSLs (EPA, 2002), shown in italics, and EPA Region 3 (Oct 2004) industrial soil ingestion risk-based concentrations, shown in standard font.
2. RBSLs for inhalation of particulates or vapor in outdoor air are from EPA (2002).
3. RBSLs for migration to groundwater are from EPA (2002) for a DAF of 20.
3. From EPA (2002) for a DAF of 20.

Table 5-84
 Volatile Organic Compound Concentrations in Groundwater
 SCYI RFI

Watery Oil Separator (SWMU 43)
 (Page 1 of 1)

Well ID	MCL or RBSL ¹	WOS-1 BR0829 18-Sep-96	WOS-3 BR0828 18-Sep-96	WOS-4A N36548-1 7-Apr-03	WOS-4A N36548-2 07-Apr-03	WOS-4B N36348-3 04-Apr-03	WOS-5 N36348-4 04-Apr-03
VOCs (Reporting units are in ug/L)							
Acetone	5500	10 U	10 U	4 J	5 U	5 U	5 U
Benzene	5	10 U	10 U	1 U	1 U	1 U	1 U
Bromodichloromethane	80	10 U	10 U	1 U	1 U	1 U	1 U
Bromoform	80	10 U	10 U	1 U	1 U	1 U	1 U
Bromomethane	8.5	10 U	10 U	1 U	1 U	1 U	1 U
2-Butanone	7000	10 U	10 U	5 U	5 U	5 U	5 U
Carbon disulfide	1000	10 U	10 U	2	6	4	1
Carbon tetrachloride	5	10 U	10 U	1 U	1 U	1 U	1 U
Chlorobenzene	100	10 U	10 U	1 U	1 U	1 U	1 U
Chloroethane	3.6	10 U	10 U	1 U	1 U	1 U	1 U
Chloroform	80	10 U	10 U	1 U	1 U	1 U	1 U
Chloromethane	190	10 U	10 U	1 U	1 U	1 U	1 U
Dibromochloromethane	80	10 U	10 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	800	10 U	10 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	5	10 U	10 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	7	10 U	10 U	1 U	1 U	1 U	1 U
1,2-Dichloroethene (total)	70	10 U	10 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	5	10 U	10 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	0.44	10 U	10 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	0.44	10 U	10 U	1 U	1 U	1 U	1 U
Ethylbenzene	700	10 U	10 U	1 U	1 U	1 U	1 U
2-Hexanone	--	10 U	10 U	5 U	5 U	5 U	5 U
Methylene chloride	5	10 U	10 U	2 U	2 U	2 U	2 U
4-Methyl-2-Pentanone	6300	10 U	10 U	5 U	5 U	5 U	5 U
Styrene	100	10 U	10 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	0.053	10 U	10 U	1 U	1 U	1 U	1 U
Tetrachloroethene	5	10 U	10 U	1 U	1 U	1 U	1 U
Toluene	1000	10 U	10 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	200	10 U	10 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	5	10 U	10 U	1 U	1 U	1 U	1 U
Trichloroethene	5	10 U	10 U	1 U	1 U	1 U	1 U
Vinyl chloride	2	10 U	10 U	1 U	1 U	1 U	1 U
Xylene (total)	1.0E+04	10 U	10 U	1 U	1 U	1 U	1 U

Any results that exceed MCLs or RBSLs are shown bolded and shaded.

U - compound was analyzed for, but not detected at the concentration shown. J - estimated value. -- not available

Notes:

1. EPA-Maximum Contaminant Levels (MCLs) are shown in bold. For compounds without MCLs, EPA Region 3 risk-based screening levels for tap water (Oct 2004) are shown in italics.
2. A detailed discussion concerning selection of screening levels is provided in Section 5.1.2 of this report.

TABLE 5-85
Base Neutral/Acid Extractable Compound Concentrations in Groundwater
SCYI RFI

Watery Oil Separator (SWMU 43)

(Page 1 of 3)

Well ID	MCL	WOS-4A	WOS-4A	WOS-5
Lab ID	or RBSL ¹	N36548-1B	N36548-2B	N36348-4R
Sample Date		7-Apr-03	7-Apr-03	4-Apr-03
(duplicate)				
BNAs (Reporting units are in ug/L)				
Acenaphthene	370	2.3 U	2.3 U	2 U
Acenaphthylene	1,500	2.3 U	2.3 U	2 U
Anthracene	1,800	2.3 U	2.3 U	2 U
Benzo(a)anthracene	0.092	2.3 U	2.3 U	2 U
Benzo(b)fluoranthene	0.092	2.3 U	2.3 U	2 U
Benzo(k)fluoranthene	0.92	2.3 U	2.3 U	2 U
Benzo(ghi)perylene	73	2.3 U	2.3 U	2 U
Benzo(a)pyrene	0.2	2.3 U	2.3 U	2 U
bis(2-Chloroethoxy)methane	--	2.3 U	2.3 U	2 U
bis(2-Chloroethyl) ether	0.0096	2.3 U	2.3 U	2 U
bis(2-Ethylhexyl)phthalate	6	2.3 U	2.3 U	2 U
4-Bromophenyl phenyl ether	--	2.3 U	2.3 U	2 U
Butyl benzyl phthalate	7,300	2.3 U	2.3 U	2 U
Carbazole	3.3	2.3 U	2.3 U	2 U
4-Chloroaniline	150	5.7 U	5.7 U	5.1 U
p-Chloro-m-cresol	--	5.7 U	5.7 U	5.1 U
2-Chloronaphthalene	490	5.7 U	5.7 U	5.1 U
2-Chlorophenol	30	5.7 U	5.7 U	5.1 U
4-Chlorophenyl phenyl ether	--	2.3 U	2.3 U	2 U
Chrysene	9.2	2.3 U	2.3 U	2 U
Dibenzo(a,h)anthracene	0.0092	2.3 U	2.3 U	2 U
Dibenzofuran	12	5.7 U	5.7 U	5.1 U
Di-n-butyl phthalate	3,700	2.3 U	2.3 U	2 U
1,2-Dichlorobenzene	600	2.3 U	2.3 U	2 U
1,3-Dichlorobenzene	18	2.3 U	2.3 U	2 U
1,4-Dichlorobenzene	75	2.3 U	2.3 U	2 U
3,3'-Dichlorobenzidine	0.15	5.7 U	5.7 U	5.1 U

TABLE 5-85
Base Neutral/Acid Extractable Compound Concentrations in Groundwater
SCYI RFI

Watery Oil Separator (SWMU 43)

(Page 2 of 3)

Well ID	MCL or RBSL ¹	WOS-4A	WOS-4A	WOS-5
Lab ID		N36548-1B	N36548-2B	N36348-4R
Sample Date		7-Apr-03	7-Apr-03	4-Apr-03
			(duplicate)	
BNAs (Reporting units are in ug/L)				
2,4-Dichlorophenol	110	5.7 U	5.7 U	5.1 U
Diethyl phthalate	2.9E+04	2.3 U	2.3 U	2.0 U
Dimethyl phthalate	3.7E+05	2.3 U	2.3 U	2.0 U
2,4-Dimethylphenol	730	5.7 U	5.7 U	5.1 U
4,6-Dinitro-o-cresol	3.7	2.3 U	23 U	20 U
2,4-Dinitrophenol	73	2.3 U	23 U	20 U
2,4-Dinitrotoluene	73	2.3 U	2.3 U	2 U
2,6-Dinitrotoluene	37	2.3 U	2.3 U	2 U
Di-n-octyl phthalate	1,500	2.3 U	2.3 U	2 U
Fluoranthene	1,500	2.3 U	2.3 U	2 U
Fluorene	240	2.3 U	2.3 U	2 U
Hexachlorobenzene	1	2.3 U	2.3 U	2 U
Hexachlorobutadiene	0.86	2.3 U	2.3 U	2 U
Hexachlorocyclopentadiene	50	2.3 U	23 U	20 U
Hexachloroethane	4.8	5.7 U	5.7 U	5.1 U
Indeno(1,2,3-c,d)pyrene	0.092	2.3 U	2.3 U	2 U
Isophorone	70	2.3 U	2.3 U	2 U
2-Methylnaphthalene	24	2.3 U	2.3 U	2 U
2-Methylphenol	1,800	5.7 U	5.7 U	5.1 U
3&4-Methylphenol	180	5.7 U	5.7 U	5.1 U
N-Nitrosodiphenylamine	14	2.3 U	5.7 U	5.1 U
N-Nitrosodi-n-propylamine	0.0096	2.3 U	2.3 U	2 U
Naphthalene	6.5	2.3 U	2.3 U	2 U
2-Nitroaniline	110	5.7 U	5.7 U	5.1 U
3-Nitroaniline	3.3	5.7 U	5.7 U	5.1 U
4-Nitroaniline	3.3	5.7 U	5.7 U	5.1 U
Nitrobenzene	3.5	2.3 U	2.3 U	2 U

TABLE 5-85
Base Neutral/Acid Extractable Compound Concentrations in Groundwater
SCYI RFI

Watery Oil Separator (SWMU 43)

(Page 3 of 3)

Well ID	MCL or RBSL ¹	WOS-4A	WOS-4A	WOS-5
Lab ID		N36548-1B	N36548-2B	N36348-4R
Sample Date		7-Apr-03	7-Apr-03	4-Apr-03
(duplicate)				
BNAs (Reporting units are in ug/L)				
2-Nitrophenol	--	5.7 U	5.7 U	5.1 U
4-Nitrophenol	--	2.3 U	23 U	20 U
bis(2-Chloroisopropyl)ether	--	2.3 U	2.3 U	2 U
Pentachlorophenol	1	23 U	23 U	20 U
Phenanthrene	73	2.3 U	2.3 U	2.0 U
Phenol	<i>1.1E+04</i>	5.7 U	5.7 U	5.1 U
Pyrene	180	2.3 U	2.3 U	2 U
1,2,4-Trichlorobenzene	70	2.3 U	2.3 U	2 U
2,4,5-Trichlorophenol	3,700	5.7 U	5.7 U	5.1 U
2,4,6-Trichlorophenol	6.1	5.7 U	5.7 U	5.1 U

Any results that exceed MCLs or RBSLs are shown bolded and shaded.

U - compound was analyzed for, but not detected at the concentration shown.

J - estimated value.

-- not available

Notes:

1. EPA Maximum Contaminant Levels (MCLs) are shown in bold. For compounds without MCLs, EPA Region 3 risk-based screening levels for tap water (Oct 2004) are shown in italics. RBSLs for acenaphthylene, benzo(ghi)perylene, and phenanthrene are from TNRCC (2004).
2. A detailed discussion concerning selection of screening levels is provided in Section 5.1.2 of this report.